



Single phase UPS systems

A cost-effective solution for
maximum power protection



- Redundant parallel operation available (6 and 10 kVA units)
- High operating efficiency, regardless of loading
- Configurable in tower or rack-mount format
- Rotatable display

ABB's PowerValue IN is a family of double-conversion online UPS that guarantees up to 40 kVA of clean, reliable power for your critical single-phase applications. As well as maintaining power to your servers, point-of-sale terminals, workstation clusters, routers, switches, hubs and sensitive electronic equipment, the PowerValue IN also conditions incoming power to eliminate spikes, swells, sags, noise and harmonics.

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ABB PowerValue online UPS

The single-phase UPS for critical applications

ABB's PowerValue IN is a family of double-conversion online UPS that guarantees up to 40 kVA of clean, reliable power for your critical single-phase applications. As well as maintaining power to your servers, point-of-sale terminals, workstation clusters, routers, switches, hubs and sensitive electronic equipment, the PowerValue IN also conditions incoming power to eliminate spikes, swells, sags, noise and harmonics.

Featuring voltage and frequency independent (VFI) topology, PowerValue IN saves costs by minimizing energy losses with its market leading

double conversion efficiency of up to 95 percent (up to 98% in ECO mode).

Simple to install or maintain, inexpensive to run and with the most compact online UPS footprint available on the market, the PowerValue IN provides stable, regulated, transient-free, pure sine wave AC power with extremely tight output voltage regulation. All units can be fitted with up to four external battery modules (EBMs) to extend runtime to well over two hours.

Available models:

PowerValue 11T IN - Tower model

Available in 1, 2, 3, 6, 10 kVA (standard and extended runtime)

PowerValue 11RT G2 IN - Rack tower model

Available in 1, 2, 3, 6, 10 kVA (standard and extended runtime)





ABB PowerValue online UPS

Product highlights

PowerValue 11T IN 1 - 10 kVA

- **Classification IEC/EN 62040-3**
VFI-SS-111
- **Working mode**
On-line double conversion
- **Output power factor**
0.9
- **Efficiency double conversion**
up to 88% (1 kVA), 88% (2 kVA),
90% (3 kVA), 93% (6-10 kVA)
- **Efficiency in ECO-MODE**
(only for 1 - 3kVA)
up to 95%
- **Input current distortion THDi**
<12% (1-3 kVA), < 5% (6-10 kVA)
- **Input power factor (PF)**
0.95 (1-3 kVA), 0.99 (6-10 kVA)
- **Communication cards**
SNMP / ModBus / AS400 relay card

PowerValue 11 RT G2 IN 1 - 10 kVA

- **Classification IEC/EN 62040-3**
VFI-SS-111
- **Working mode**
On-line double conversion
- **Module power rating**
1-10kVA
- **Paralleling**
Up to 4 units (only 6-10 kVA)
- **Output power factor**
1.0
- **Efficiency double conversion**
up to 91% (1-3 kVA), 94% (6-10 kVA)
- **Efficiency in ECO-MODE**
up to 98%
- **Input current distortion THDi**
<5%
- **Communication cards**
SNMP / ModBus / AS400 relay card
- **Mechanical configuration**
Rack-Tower with rotatable display



High reliability

- Reliable double conversion topology protects load from all input disturbances
- Batteries can be added or replaced easily
- Reduced recovery time from discharge
- Redundant parallel operation available (6 and 10 kVA units - PowerValue 11RT G2 IN)

Low cost of ownership

- Scalable runtime
- High operating efficiency, regardless of loading
- Reduced installation and upgrading costs
- Compact design

Flexible design

- Configurable in tower or rack-mount format - PowerValue 11RT G2 IN
- Rotatable display - PowerValue 11RT G2 IN
- UPS can be connected with up to four parallel battery modules for extended runtime
- Long backup models available
- Full set of accessories and connectivity options

Efficient service concept

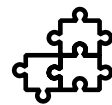
- Easy set up and maintenance (plug and play)
- User-friendly display



High reliability



Low cost of ownership



Flexible design



Efficient service concept



Compact size



Tower and rack convertable



Easy battery replacement



Increased runtime

ABB PowerValue online UPS

Product Features

Frequency conversion

Operating as a frequency converter, PowerValue 11 IN not only converts the power supply frequency (50 Hz to/from 60Hz), but it also protects the load from power disturbances and guarantees additional battery power in case of mains failure. The operation and installation is simple and implies in correctly wiring the UPS and in selecting the frequency conversion mode in the LCD display.

- Input frequency range:
 - 1-3 kVA: 45-66Hz
 - 6-10 kVA: 40-70Hz
- Output frequency: 50 or 60 Hz
- Output de-rating:
 - 1-3 kVA: 60%
 - 6-10 kVA* 80%

Cold start

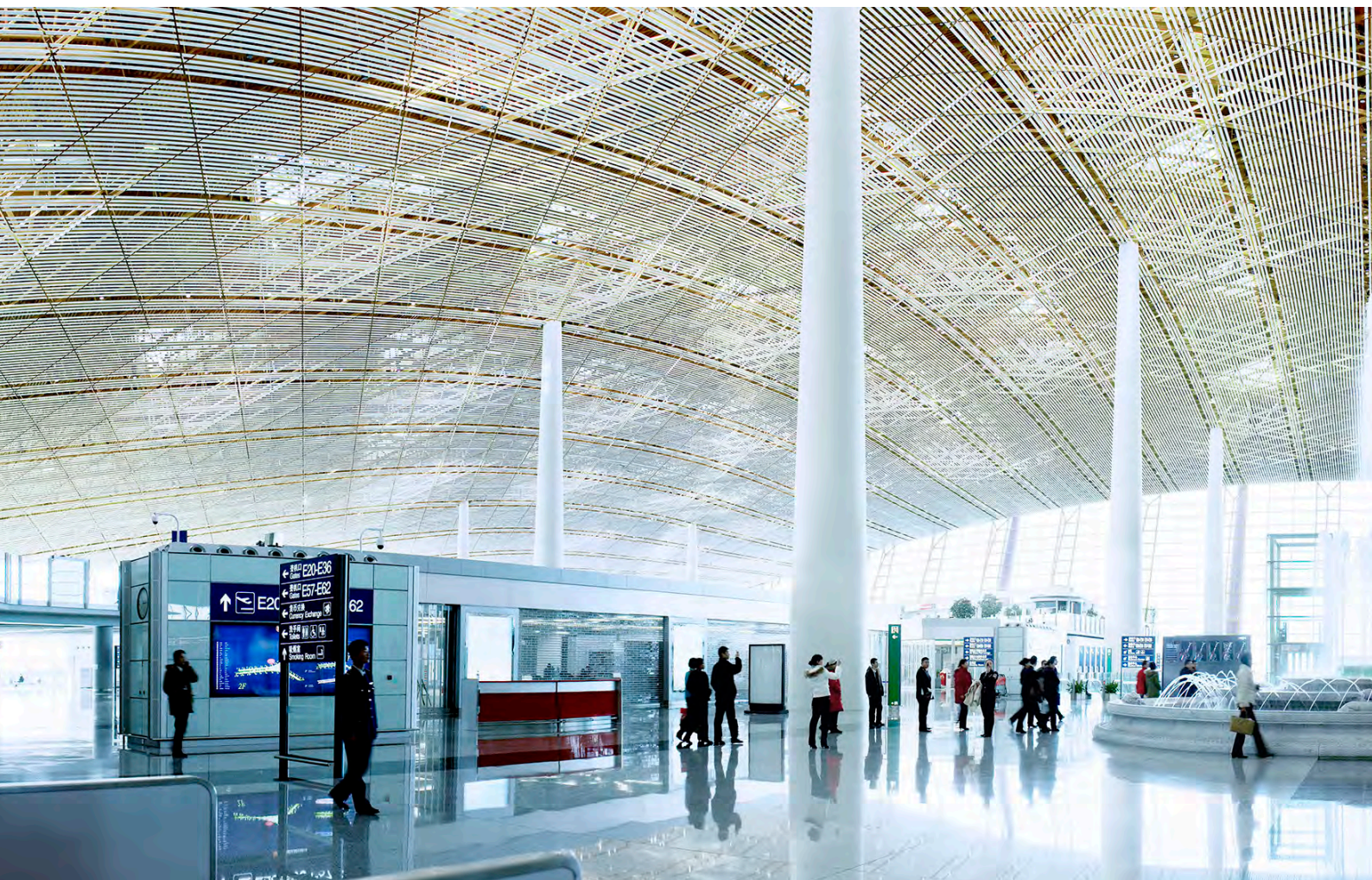
PowerValue 11 IN can be started without being connected to the mains power supply (start up from the batteries).

This feature is specially useful in the following situations:

- To start up and operate the unit even throughout a power outage.
- To help identify, during an unsuccessful system start-up, if the mal-function is on the power supply. Eg. If the UPS starts-up on battery and does not transfer to online or bypass mode, it is most probable that there is a mains failure.

Automatic load start-up

After a power outage, the UPS transfers to battery. If the batteries are completely discharged and the system shuts down, with the automatic load start up feature, the UPS will restart automatically once the mains power is recovered. The operator can enable, disable this



function through the LCD panel according to the following options:

- UPS will charge the batteries and the inverter will start automatically
- UPS will charge the batteries and start immediately on bypass. In this case, the operator has to start the inverter manually.
- UPS will charge the batteries and no output power will be seen either on bypass or on inverter. In this case, the operator has to start the inverter manually.

Paralleling

PowerValue 11RT G2 IN 6 and 10 kVA UPSs can be installed in parallel to increase the total system power or to add redundancy to the system. The UPSs are delivered with an in-built parallel board and paralleling cables. No additional hardware is required for this installation.

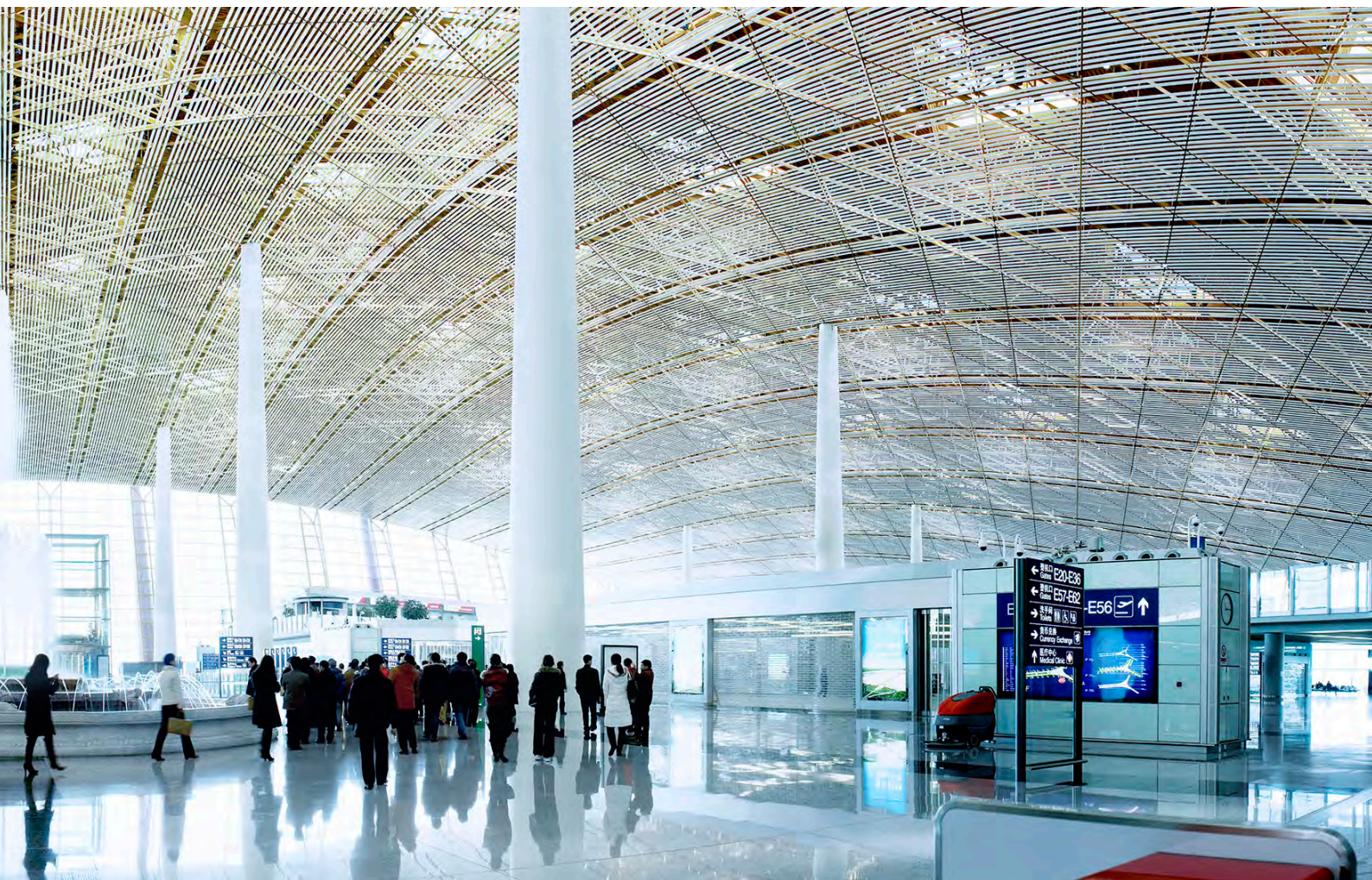
Emergency power off (EPO)

Activating the emergency power off control of the UPS, the AC and the DC sources to the load are entirely disconnected.

Operation: To recover the UPS's normal status, the EPO connector has to be set back to its original configuration (Normally closed through a jumper in the UPS rear panel). After this, the EPO status has to be cleared through the LCD menu and the UPS will recover its operation in bypass-mode. To transfer the UPS to inverter-mode, the selection has to be made through the LCD display.

Fan speed control

The speed of PowerValue 11 IN fans vary with the load level and with the ambient temperature to minimize the power consumption while keeping the UPS in a safe working temperature.



Wide input voltage and frequency range

With higher input tolerances, the UPS works longer on bypass or normal mode. This helps reducing the consumption of the batteries when there are small variations in the power supply.

Generator compatibility

Generators power are often routed through the UPS to supply power to the load during long power outages. The UPS acts as a power link that keeps critical systems operational until the generator synchronises with the UPS and picks up the load.

Design flexibility

PowerValue 11 IN is extremely compact and is designed to be positioned in a tower format or rack-mounted. The display is electronically rotatable and therefore easy adjustable to your configuration needs.

Increasing the runtime

Battery modules are available to increase the system runtime.

The cables for connecting the battery modules to the UPS are integrated to the units and these can be easily plugged together to increase the system's runtime. To connect several battery modules to a group of UPSs in parallel (only for 6-10 kVA), the battery modules should be firstly connected to each UPS. Only after this procedure is done, the UPSs should be connected in parallel. Long backup models are available in the range 1-3 kVA with max 6A battery charger integrated in the UPS (no internal batteries).



ABB PowerValue online UPS

Options and connectivity

Rack mounting kit-PowerValue 11 RT G2 IN

Rack rails, screws and metallic plates for easy installation of the UPS and external battery modules to a standard 19" rack. The kit is included in each UPS and battery module box.

Network interface cards

They enable real-time monitoring of your UPS system via a standard web browser or by using the included monitoring software.

ABB's monitoring devices provide real-time visibility of the condition of your power equipment and help in solving problems before they become critical.

Supported models

- SNMP adapter (for 1-10 kVA)
- WebPro ModBus (for 1 -10 kVA)
- Environmental Monitoring Probe (for 1-3 kVA)

Third party adapters can be installed as well (for 1-3 kVA)

- CS141 slot / box Basic
- CS141 slot / box Advanced
- CS141 slot / box ModBus

Sensors

Temperature sensors, humidity sensors and alarm buzzers support monitoring the environmental condition and enables an efficient identification of the alarms.

Relay Interface Card

Provides contact closures for remote monitoring of alarm conditions of PowerValue 11 IN systems.

The card is user-installable, hot-swappable and enables advanced communication between the UPS and the computer.

Models

- AS400

External Maintenance Bypass Switch

It provides maintenance bypass capability plus serves as an output Power Distribution Unit; It allows service continuity during UPS maintenance or upgrade with no load interruptions. Two models are available, respectively for 1-3 kVA and 6-10 kVA.



ATS-16A (only for 1-3 kVA) PowerValue 11RT G2 IN

The ATS-16 is a two-way, single-phase, automatic switch powered by two independent synchronous or asynchronous AC power supply sources (typically two feeding UPSs upstream).

One of the two sources can be designated as the preferred power supply, to which the ATS-16 will transfer the load. The ATS-16 promptly switches to the other source in the event of primary source failure. The external maintenance bypass with PDU delivers a maintenance bypass feature and convenient power distribution. This enables the user to service the UPS in a safe and proper manner by excluding any risk for the operator while the load is powered by the AC mains.

Easy to install in a rack-mount (1RU only) or vertical configuration, the ATS-16 has an intuitive interface with LED indicators and push buttons.

The ATS-16 enhances the system reliability due to internal back-feed protection and complete protection for overload and short-circuit.

Monitoring software

It is an advanced UPS management software suite to allow remote control and monitoring of UPS equipped with network interface cards in a LAN or Internet environment. It can manage a single or multiple UPSs and prevent data loss from power outage by programming a safe system shutdown.

The software is included with the SNMP adapter.



ABB PowerValue online UPS

Battery autonomy

PowerValue 11T IN

UPS Rating and Model	Internal batteries	Runtime with internal batteries	EBM	Runtime of UPS + 1 EBM	Runtime of UPS + 2 EBM	Runtime of UPS + 3 EBM	Runtime of UPS + 4 EBM
11T 1kVA B	9Ah x 2	4/6/10/23	--	--	--	--	--
11T 1kVA S	N/A	--	9Ah x 6	13/18/30/67	31/43/68/142	50/74/106/218	69/94/144/293
11T 2kVA B	9Ah x 4	4/6/11/23	--	--	--	--	--
11T 2kVA S	N/A	--	9Ah x 12	13/19/31/68	31/44/69/146	51/70/108/223	70/96/147/300
11T 3kVA B	9Ah x 6	4/6/11/24	--	--	--	--	--
11T 3kVA S	N/A	--	9Ah x 12	13/19/32/72	32/45/72/153	52/72/112/234	72/99/153/315
11T 6kVA B	9Ah x 16	6.8/10/17.8/42	--	--	--	--	--
11T 6kVA S	N/A	--	9Ah x 16	6.8/10/17.8/42	17.8/25/42/98	30/43/70/162	43/61/99/227
11T 10kVA B	9Ah x 20	4/6.8/12/29	--	--	--	--	--
11T 10kVA S	N/A	--	9Ah x 20	4/6.8/12/29	12/18/29/70	21/31/50/116	30.6/43/71/164

PowerValue 11RT G2 IN

UPS Rating and Model	UPS internal batteries	Backup time with internal batteries	Back up time UPS + 1 EBM	Back up time UPS + 2 EBM	Back up time UPS + 3 EBM	Back up time UPS + 4 EBM
11RT 1kVA B	1 x 2 x 9.4 Ah	4/6/10/23	21/30/48/104	40/55/86/179	59/81/124/255	79/106/162/331
11RT 1kVA S			12/18/29/66	30/42/67/141	49/73/105/217	69/94/143/293
11RT 2kVA B	1 x 3 x 9.4 Ah	4/6/11/23	21/30/49/105	40/56/87/181	60/82/126/258	80/108/164/335
11RT 2kVA S			12/18/30/68	31/44/69/145	50/70/108/222	70/96/147/300
11RT 3kVA B	1 x 4 x 9.4 Ah	4/6/11/24	22/31/50/108	42/57/89/186	61/84/129/264	82/99/168/343
11RT 3kVA S			13/19/32/72	32/45/72/152	51/72/112/233	72/98/152/315
11RT 6kVA			7/10/18/49	20/28/49/133	33/49/88/180	49/75/133/180
11RT 10kVA			3/5/9/23	10/13/24/64	16/24/43/115	24/36/64/173

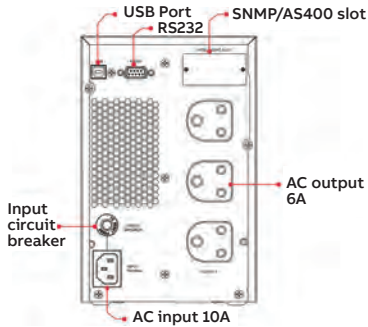
Remark: Battery autonomy in minutes at 100/75/50/25% load



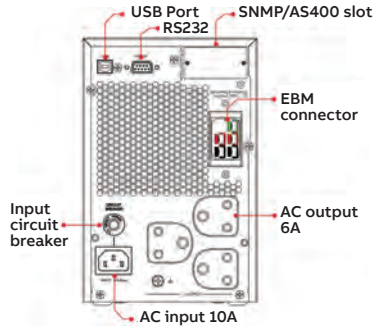
PowerValue 11T IN

Available models

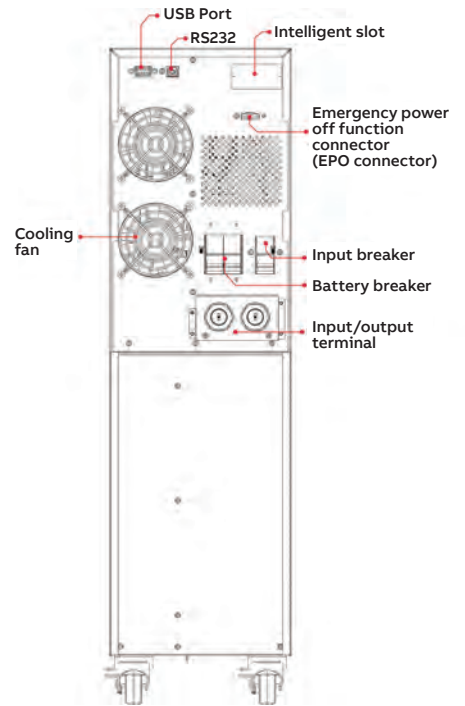
1 kVA B



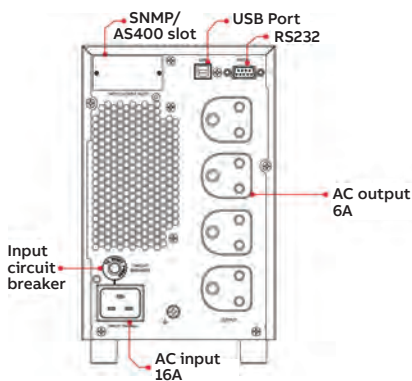
1 kVA S



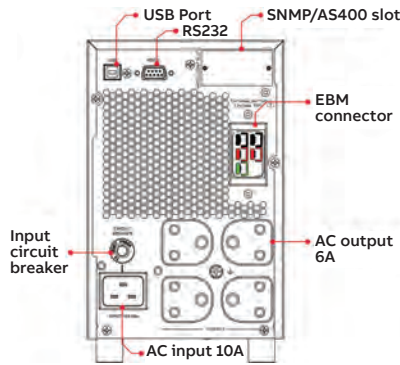
6 kVA B / 10 kVA B



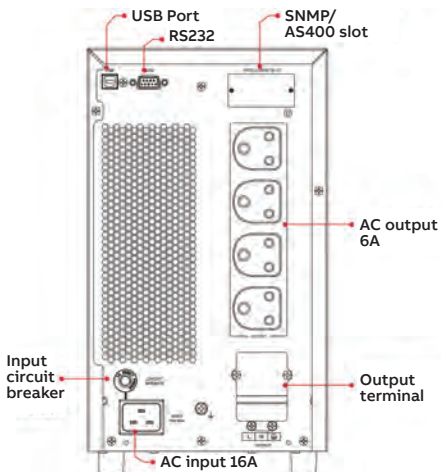
2 kVA B



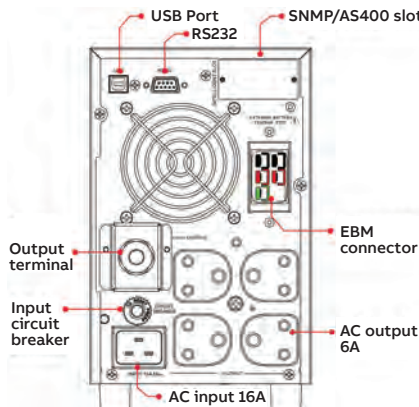
2 kVA S



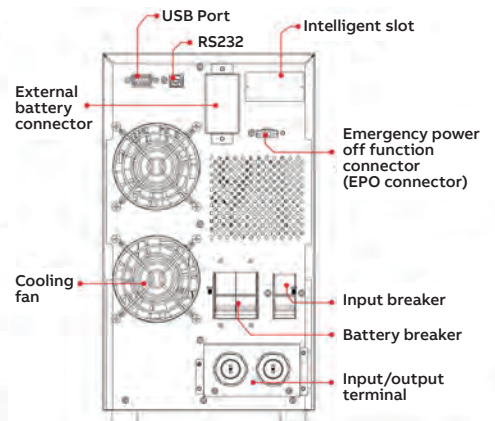
3 kVA B



3 kVA S



6 kVA S / 10 kVA S



PowerValue 11T IN

Technical specifications

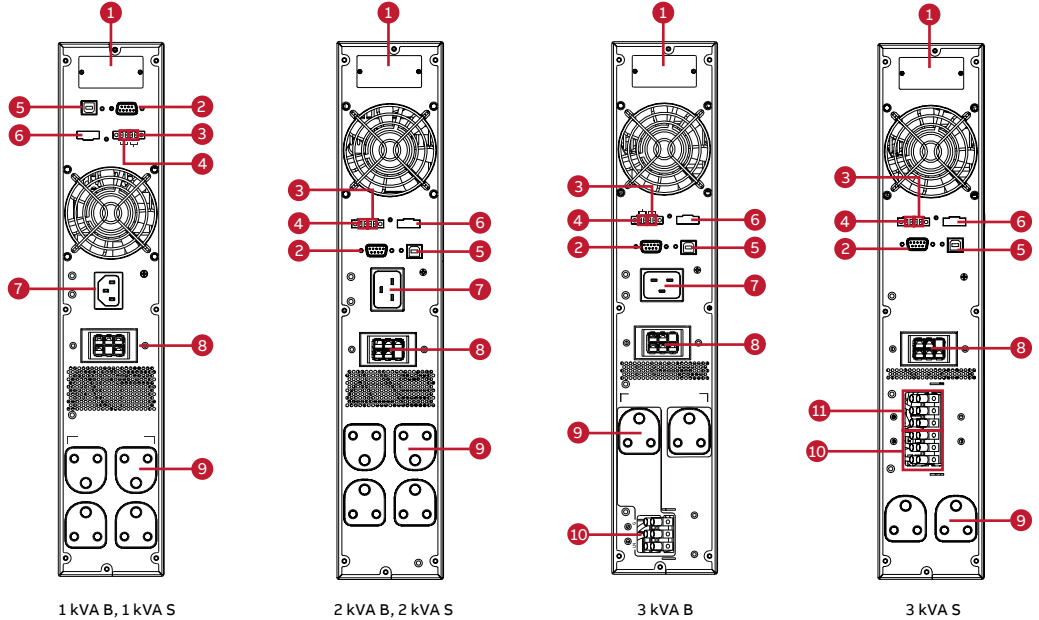
GENERAL DATA	1kVA B/ S	2kVA B/ S	3kVA B/ S	6kVA B/ S	10kVA B/ S
Output rated power	900 W	1'800W	2'400W	5'400W	9'000W
Output power factor	0.9	0.9	0.9	0.9	0.9
Topology	Online double conversion				
Inbuilt batteries	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
INPUT					
Nominal input voltage	220/230/240 Vac			208/220/230/240 Vac	
Input voltage tolerance	100-300 Vac (load dependent)			110-300 Vac (load dependent)	
Input current THDi	≤12%			≤5%	
Frequency range	40-70 Hz			46-54Hz	
Power factor	≥0.95			≥0.99	
OUTPUT					
Rated output voltage	220/230/240 Vac			208/220/230/240 Vac	
Voltage tolerance	±1% (referred to 230V)				
Voltage distortion	<3% linear load, <6% non linear load			<3% linear load, <5% non linear load	
Overload capacity (linear load) on inverter	10m: 106-110% load 30s: 111-130% load 3s: ≥ 150% load			30m: 100-110% load 5m: 111 to 130% load 10s: ≥ 130% load	
Nominal frequency	50 Hz				
Crest factor	3:1 (load supported)				
EFFICIENCY					
Overall system efficiency	Up to 88%	Up to 88%	Up to 90%	Up to 92%	Up to 93%
In eco-mode	Up to 93%	Up to 94%	Up to 95%	Up to 98%	Up to 98%
ENVIRONMENT					
Protection rating	IP20				
Storage temperature	UPS: -20°C to 50°C; Batteries: 0°C to 35°C			UPS: -15°C to 60°C; Batteries: 0°C to 35°C	
Operating temperature	0°C to 50°C			0°-40°C	
Relative humidity	10% to 90%			0% to 95%	
Altitude (above sea level)	1000m without derating				
BATTERIES					
Type	VRLA (valve regulated lead-acid)				
Inbuilt batteries	2x9.4 Ah (B)	4x9.4Ah(B)	6x9Ah(B)	16x9Ah(B)	20x9Ah(B)
Charging current	1.5A/4A adjustable	1.5A/4A adjustable	1.5A/4A adjustable	2A/6A adjustable	2A/6A adjustable
COMMUNICATIONS					
User interface	LCD display				
Optional communication cards	SNMP;ModBus;AS400;Environmental monitoring sensor probe				
STANDARDS					
Safety	IEC/EN 62040-1				
EMC	IEC/EN 62040-2				
Performance	IEC/EN 62040-3				
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS 18001				
WEIGHT, DIMENSIONS					
Weight	9/4.2 Kg	16.8/6.8 Kg	26.8/7.4 Kg	61Kg(B)/12 Kg(S)	76Kg(B)/16 Kg(S)
Dimensions w x h x d(mm)	145x223x288(B/ S)	145x238x400 (B/ S)	190x336x425 (B) 145x238x400 (S)	190 x 688x 369 (B) 190 x 318x 369 (S)	190 x 688x 442 (B) 198 x 318x 442 (S)



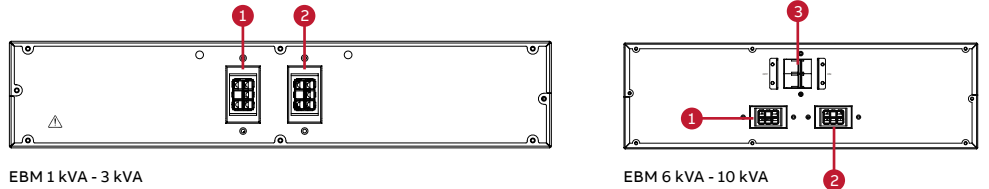
PowerValue 11 RT G2 IN

Available models

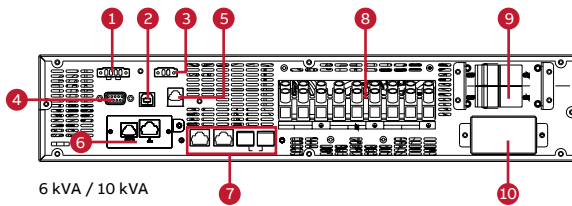
- 1 SNMP/AS400 Slot
- 2 RS-232
- 3 Dry Contact input
- 4 EPO port
- 5 USB port
- 6 Dry Contact output
- 7 AC input 10 A
- 8 EBM connector
- 9 AC output 10 A
- 10 AC output 20 A
- 11 AC input 20 A



- 1 Downstream EBM output
- 2 Upstream EBM input
- 3 DC Breaker



- 1 Dry input/output
- 2 USB port
- 3 EPO port
- 4 RS-232
- 5 RJ-11(PDU connection)
- 6 SNMP slot
- 7 Parallel connection
- 8 Input/Output terminals
- 9 Input breaker
- 10 EBM connector



Options

- Rack installation kit allows for easy mounting to standard 19" rack
- Full range connectivity: SNMP, ModBus (RS-485 and TCP/IP), environmental monitoring probe, relay card with I/O contacts
- External maintenance bypass
- Automatic transfer switch (PowerValue 11RT G2 IN 1-3 kVA)

UPS cabinet configuration

- Online double conversion UPS
- Efficiency in online mode up to 94%
- Efficiency in eco-mode up to 98%
- Configurable in tower format or rack-mount
- Four 6 kVA and 10 kVA UPSs (max 40 kW per system) can be connected in parallel for redundancy or extra capacity
- Cold start
- Interfaces: USB, RS-232, potential-free contacts, EPO contact inputs
- Emergency power-off for remote shutdown

PowerValue 11 RT G2 IN

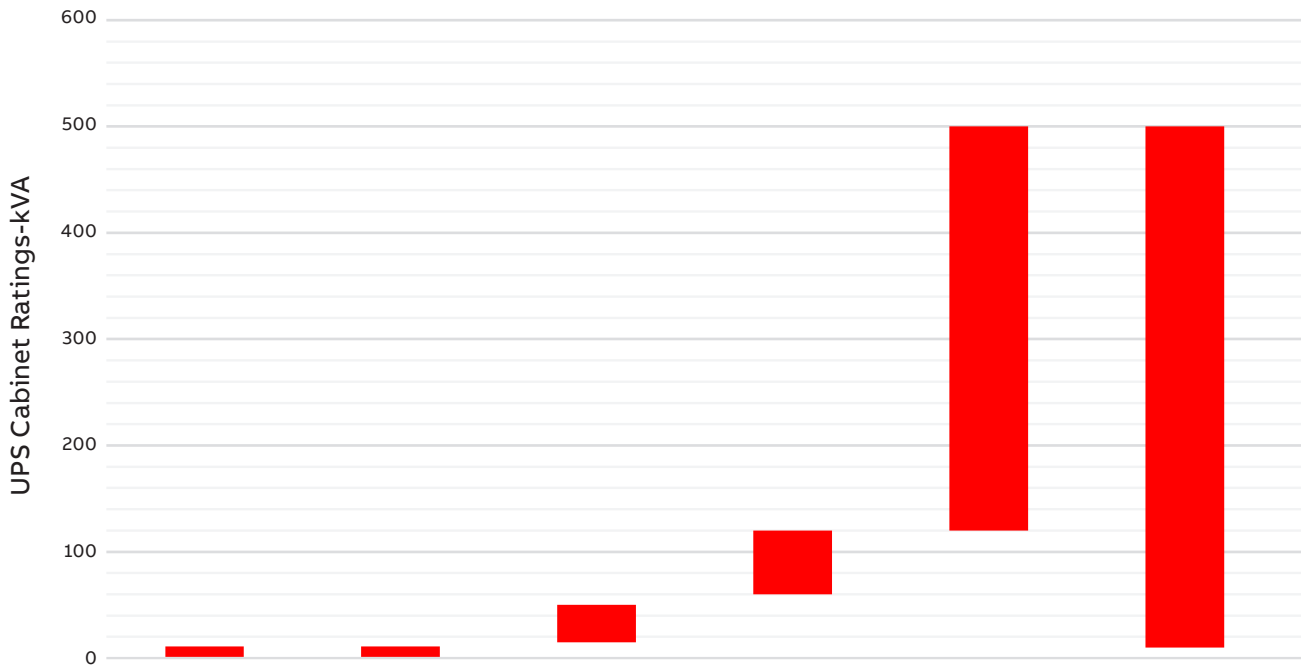
Technical specifications

GENERAL DATA	1kVA B/ S	2kVA B/ S	3kVA B/ S	6kVA	10kVA
Output rated power	1000 W	2000W	3000W	6'000W	10'000W
Output power factor	1.0	1.0	1.0	1.0	1.0
Topology	Online double conversion				
Parallel configuration	No	No	No	Yes, up to 4 UPS	Yes, up to 4 UPS
Inbuilt batteries	Yes/No	Yes/No	Yes/No	No	No
INPUT					
Nominal input voltage	208/220/230/240 Vac				
Input voltage tolerance	120-300 Vac (load dependent)			100-276 (load dependent)	
Input current THDi	<5% with full resistive load			<5% with full resistive load	
Frequency range	45-55 Hz			45-55Hz	
Power factor	≥0.99			≥0.99	
OUTPUT					
Rated output voltage	208/220/230/240 Vac				
Voltage tolerance	±1% (referred to 230V)				
Voltage distortion	≤2% linear load, ≤5% non linear load			<2% linear load, <4% non linear load	
Overload capacity (linear load) on inverter	60s: 105-130% load 10s: 131-150% load 0.3s: > 150% load			10m: 105-120% load 30s: 126 to 150% load 500 ms: ≥ 150% load	
Nominal frequency	50 Hz				
Crest factor	3:1 (load supported)				
EFFICIENCY					
Overall system efficiency	Up to 89%	Up to 91%	Up to 92%	Up to 94%	
In eco-mode	Up to 97.5%	Up to 98%	Up to 98%	Up to 98%	
ENVIRONMENT					
Protection rating	IP20				
Storage temperature	UPS: -15°C to 60°C; Batteries: 0°C to 40°C			UPS: -15°C to 60°C; Batteries: 0°C to 35°C	
Operating temperature	0°C to 50°C			0°C to 40°C	
Relative humidity	0% to 95%				
Altitude (above sea level)	1000m without derating				
BATTERIES					
Type	VRLA (valve regulated lead-acid)				
Inbuilt batteries	2x9.4 Ah (B)	3x9.4 Ah(B)	4x9.4 Ah(B)	-	-
Charging current	1.5A/6A	1.5A/6A	1.5A/6A	0-12 A adjustable	
COMMUNICATIONS					
User interface	LCD display				
Optional communication cards	SNMP;ModBus;AS400;Environmental monitoring sensor probe				
STANDARDS					
Safety	IEC/EN 62040-1				
EMC	IEC/EN 62040-2				
Performance	IEC/EN 62040-3				
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS 18001				
WEIGHT, DIMENSIONS					
Weight	11.4 (B) 5.83 Kg (S)	19.12 (B) 8.74 Kg (S)	27.94 (B) 9.05 Kg (S)	15 Kg	15.5 Kg
Dimensions w x h x d	438x86.2 x309.8mm	438x86.2 x426.5mm	438x86.2 x629.8mm	438x86.5 x603 mm	438x86.5 x603 mm



ABB standalone UPS portfolio

Standalone UPS cabinet sizes

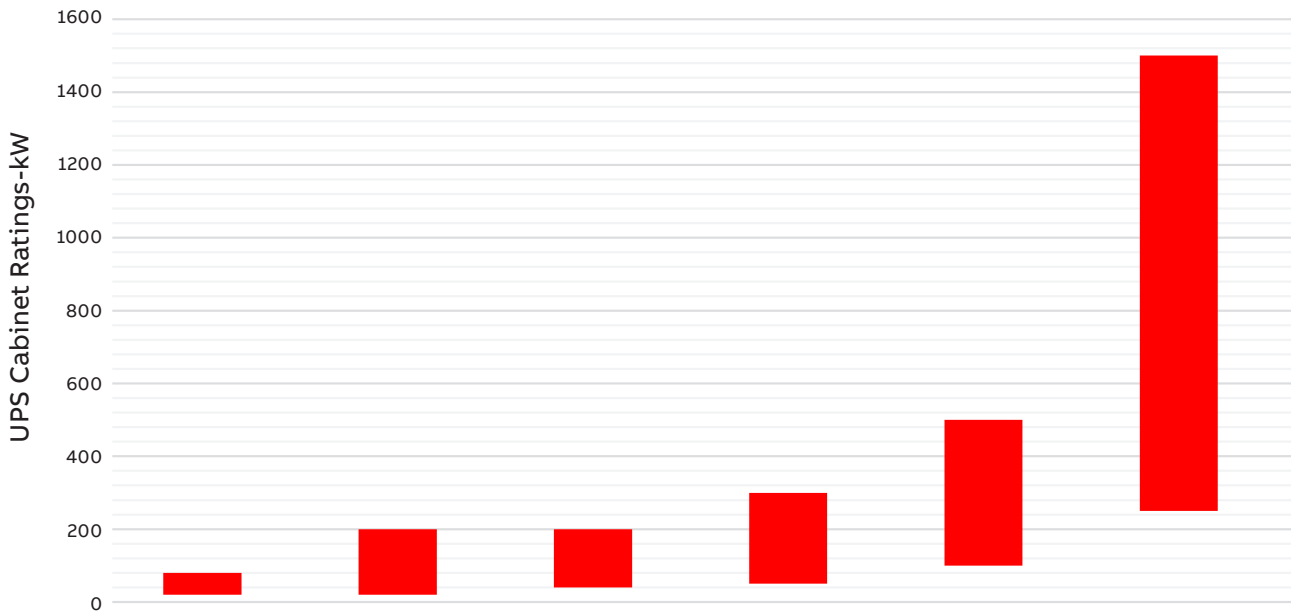


Product	PowerValue 11T IN	PowerValue 11T G2 IN	PowerScale 33	PowerWave 33 S3	PowerWave 33	SG Series IEC
Parallelable	-	Up to 4 units	Up to 20 units	Up to 10 units	Up to 10 units	Up to 6 units
System power	Up to 10 kVA	Up to 40 kVA	1000kVA	600kW	5000kW	3000 kVA
UPS type	Single-phase standalone tower	Single-phase rack or tower convertible	Three-phase standalone tower	Three-phase standalone tower	Three-phase standalone tower	Three-phase standalone tower



ABB modular UPS portfolio

Modular UPS cabinet sizes



Product	DPA Upscale RI	DPA Upscale ST	Conceptpower DPA 40 - 200 kW	DPA 250 S4	Conceptpower DPA 500	Megaflex DPA
Parallelable	-	Up to 4 units	Up to 6 units	Up to 5 units	Up to 6 units	Up to 4 units
System power	Up to 80 kW	Up to 400 kW	1200 kW	1500 kW	3000 kW	6000 kW
UPS type	Three-phase modular tower	Three-phase modular tower	Three-phase modular tower	Three-phase modular tower	Three-phase modular tower	Three-phase modular tower





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