TECHNICAL DATASHEET

PowerValue 11 T IN

1-10 kVA

PowerValue 11 T IN
1-3 kVA

PowerValue 11 T IN
6-10 kVA

Classification IEC/EN 62040-3
VFI-SS-111

Working mode
On-line double conversion

Module power rating
1-10 kVA

Output power factor
0.9

Efficiency double conversion
up to 88% (1 kVA), 88% (2 kVA), 90% (3 kVA), 93% (6-1 0 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

Table of contents

Document information

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UPS model	PowerValue 11T IN - 1-10 kVA
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UPS features

Frequency conversion
Operating as a frequency converter, PowerValue 11 T IN not only converts the power supply frequency (50 HZ to/from 60 HZ), but it also protects the load from power disturbances and guarantees additional battery power in case of mains failure.

The operation and installation are 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: 40-60Hz
  - 6-10 kVA: 46-54Hz or 56-64Hz

- **Output frequency: 50 or 60 Hz**
- **Output de-rating:**
  - 1-3 kVA: 70%
  - 6-10 kVA: 60%

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

This feature is especially 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 malfunction 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.

Emergency power off (EPO), only for 6-10 kVA
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 T IN fans varies 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 is 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. With PowerValue 11 T IN, the power of the generator should be dimensioned 1 .3 times the UPS rated power.

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. Long backup models are all with max 4A battery charger for 1 kVA-3 kVA, 6A battery charger integrated in the 6 kVA UPS (no internal batteries) and max 4A battery charger for 1 0 kV A UPS (no internal batteries).

6k-10k Applicable Standard Table	
Low frequency signals	IEC 61000-2-2 Disturbing Voltage: 10V
ESD	IEC 61000-4-2 Level 3
RS	IEC 61000-4-3 Level 3
EFT	IEC 61000-4-4 Level 3
Surge	IEC 61000-4-5 Level 2 for line to line; Level 3 for line to earth
CS	IEC 61000-4-6 Level 3
Power frequency magnetic field immunity	IEC 61000-4-8 Level 4
EMC	IEC 62040-2 Category C3
Safety	IEC 62040-1
Performance	IEC 62040-3
RoHs	IEC/EN 50581

Batteries

PowerValue 11 T IN can be configured with matching battery modules to satisfy extended runtime demands. Easily replaceable batteries increase availability and reduce Mean Time to Repair (MTTR).

UPS

Power (kVA)	Internal batteries	Charging current	Dimensions (width × height × depth) [mm]	Weight
1 kVA B	1 x 2 x 9Ah	1A	145x223x288	9.3 kg
1 kVA S	-	4A	145x223x288	4.2 kg
2 kVA B	1 x 4 x 9Ah	1A	145x238x400	16.8 kg
2 kVA S	-	4A	145x238x400	6.8 kg
3 kVA B	1 x 6 x 9Ah	1A	190x336x425	26.8 kg
3 kVA S	-	4A	145x238x400	7.4 kg
6 kVA B	16 x 9Ah	1-2A (default 1A)	190x688x369	61.0 kg
6 kVA S	-	1-6A (default 4A)	190x318x369	12.0 kg
10 kVA B	20 x 9Ah	1-2A (default 1A)	190x688x442	76.0 kg
10 kVA S	-	1-4A (default 4A)	190x318x442	16.0 kg

External battery module

Power (kVA)	Batteries	Dimensions (width × height × depth) [mm]	Weight
1 kVA S	(2 x 3) x 9Ah	145x220x397	20.00 kg
2 kVA S	(2 x 6) x 9Ah	190x318x421	44.90 kg
3 kVA S	(2 x 6) x 9Ah	190x318x421	44.90 kg
6 kVA S	(1 x 16) x 9Ah	190x318x442	49.0 kg
10 kVA S	(1 x 20) x 9Ah	190x318x442	58.0 kg

Battery autonomy and applicable Standards

Battery autonomy

POWER (kVA)	UPS internal batteries	UPS +1 batt. module	UPS +2 batt. module	UPS +3 batt. module	UPS +4 batt. module
1 kVA B	3/5/9/20	/	/	/	/
1 kVA S	-	20/28/45/89	45/65/102/203	75/105/165/322	110/151/237/250
2 kVA B	3/6/10/25	/	/	/	/
2 kVA S	-	20/28/46/93	45/66/105/206	75/106/169/331	110/152/241/479
3 kVA B	3/6/11/24	/	/	/	/
3 KVA S	-	12/17/29/59	29/42/69/139	48/69/113/225	69/98/160/322
6 kVA S	-	6/9/17/41	17/25/41/97	29/41/68/158	41/71/97/>180
10 kVA S	-	3/6/11/29	11/17/29/69	20/29/49/113	29/42/69/160

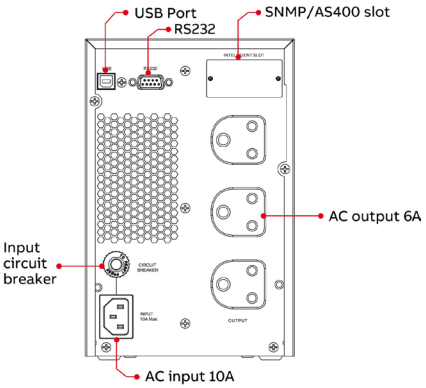
*Battery autonomy in minutes at 100 / 75 / 50 / 25 % load.
*Each Module is built-in 2 strings in parallel.
*Given runtimes are estimates and valid at 20 degrees Celsius. Actual runtime of the system will depend, among many variables, on the age of the batteries and environmental conditions.
*For 1-3kVA, S model, battery voltage by 36Vdc, 72Vdc, 72Vdc.

1k-3k Applicable Standard Table	
Low frequency	Signals IEC 61000-2-2 Disturbing Voltage□10V
ESD	IEC 61000-4-2 Level 3
RS	IEC 61000-4-3 Level 3
EFT	IEC 61000-4-4 Level 4
Surge	IEC 61000-4-5 Level 4
CS	IEC 61000-4-6 Level 3
Power frequency magnetic field immunity	IEC 61000-4-8 Level 4
Conducted	IEC 62040-2 Category C2
Radiated	IEC 62040-2 Category C2
Performance classification	VFI-SS-III
Safety	IEC 62040-1:2008+A1+2013
Transportation	IEC 60068-2-31, IEC 60068-2-64, IEC 60068 -2-27

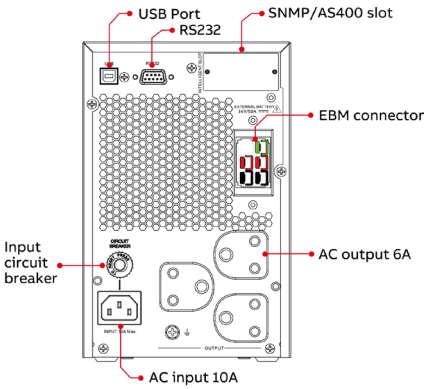
6k-10k Applicable Standard Table	
Low frequency	IEC 61000-2-2 Disturbing Voltage: 10V
ESD	IEC 61000-4-2 Level 3
RS	IEC 61000-4-3 Level 3
EFT	IEC 61000-4-4 Level 3
Surge	IEC 61000-4-5 Level 2 for line to line; Level 3 for line to earth
CS	IEC 61000-4-6 Level 3
Power frequency magnetic field immunity	IEC 61000-4-8 Level 4
EMC	IEC 62040-2 Category C3
Safety	IEC 62040-1
Performance	IEC 62040-3
Safety	IEC/EN 50581

Rear view

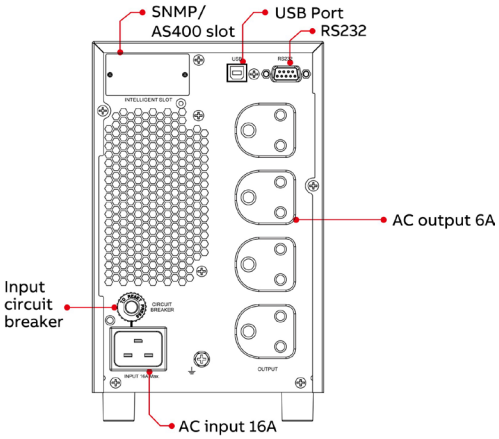
1 kVA B



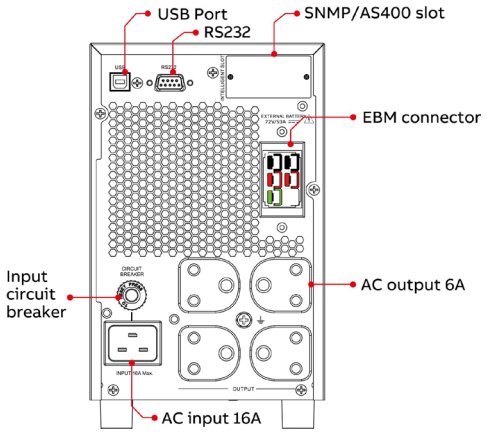
1 kVAS



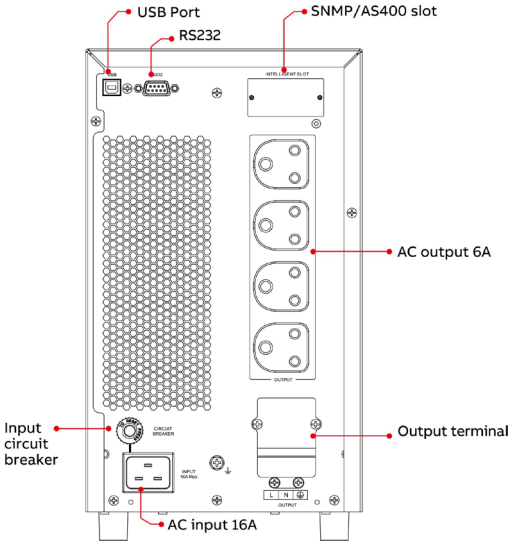
2 kVA B



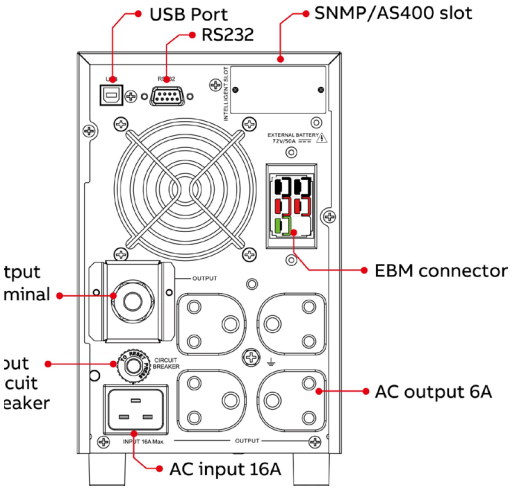
2 kVAS



3 kVA B

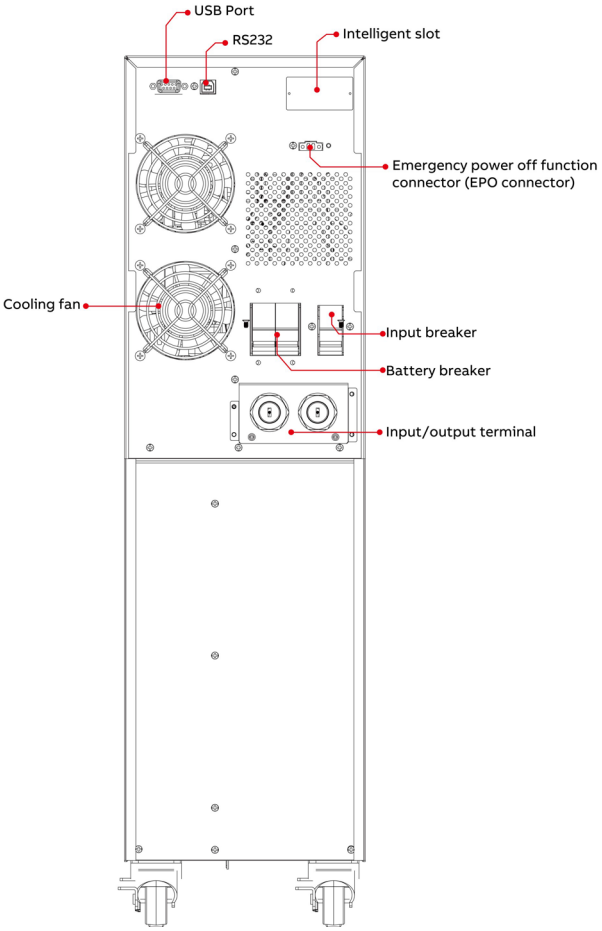


3 kVAS

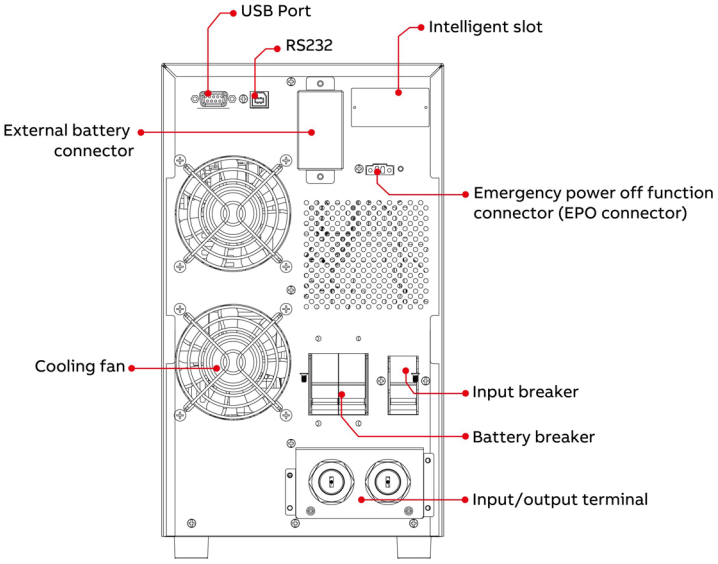


Rear view

6 kV A B / 10 kV A B

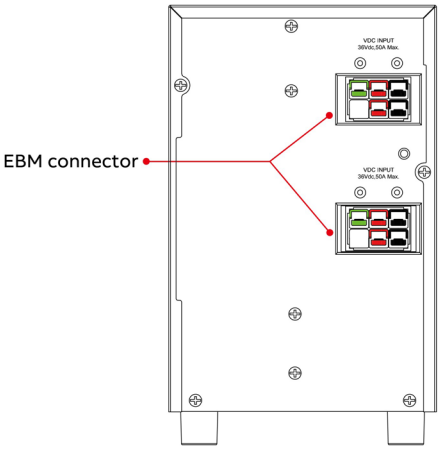


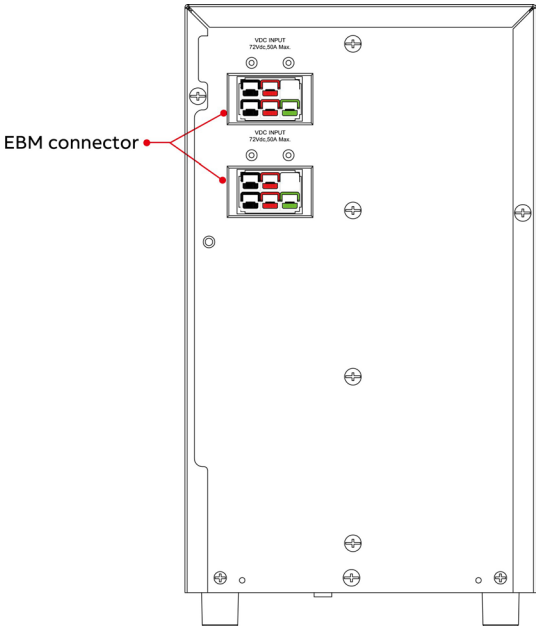
6 kVA S / 1 0 kVA S



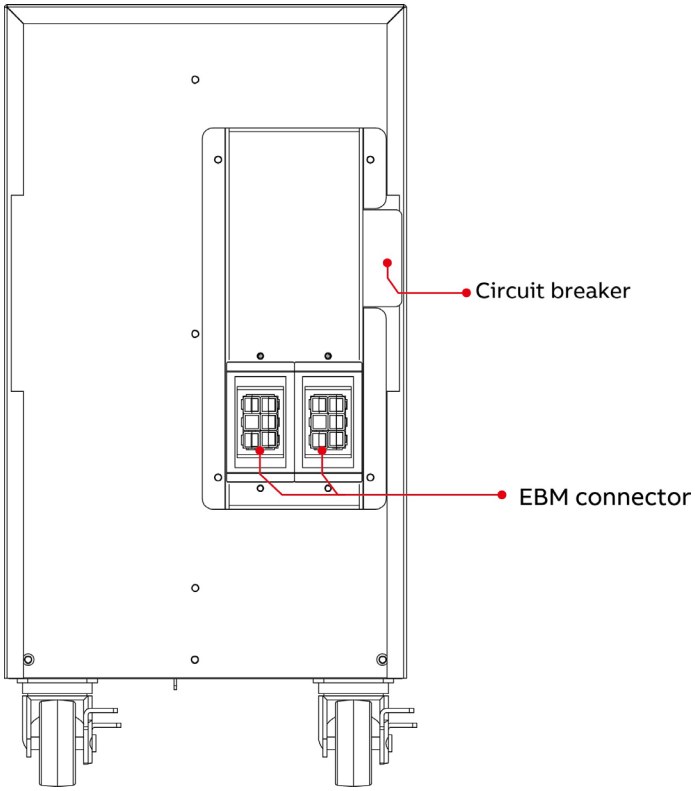
Rear view

EBM for 1kVA - 3kVA





EBM for 6kVA - 10kVA



Connectors / Sockets

Model	Output socket				Input socket			
	Qty	Type	Current	Drawing	Qty	Type	Current	Drawing
1 kVA B 1 kVA S	3	India	6A		1	IEC-320C14	10A	
2 kVA B 2 kVA S	4	India	6A		1	IEC-320C20	16A	
3 kVA B	4	India	6A		1	IEC-320C20	16A	
	1	Terminal block	20A					
3 kVA S	4	India	6A		1	IEC-320C2	16A	
	1	Terminal block	20A					
6 kVA	1	Terminal block	63A		2	Terminal block	20A	
10 kVA	1	Terminal block	63A		2	Terminal block	63A	

Options

Network interface cards
They enable real-time monitoring of your UPS system via a standard web browser or by using 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
- ViewPower SNMP adapter (for1-10 KVA)
- Webpro ModBus (for 1-10 KVA)
- Environmental Monitoring Probe (for1-3 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

(*) an external enclosure is necessary to connect via RS232 to the UPS

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

Relay interface cards
Provides contact closures for remote monitoring of alarm conditions of PowerValue 11 T IN systems.

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

Models
- AS400

ATS 16A (only for 1-3 KVA)
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.

Technical specifications

General data	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Apparent power	1 kVA	2 kVA	3 kVA	6 kVA	10 kVA
Active power	900 W	1800 W	2700 W	5400 W	9000 W
UPS type	on-line, transformer-free				
Parallel capability	No	No	No	No	No
Battery	Included (1-1 0kVA B) / not included (1-1 0kVA S)				
Performance classification	VFI-SS-111			VFI-SS-111	
Mechanical					
Dimensions (width x height x depth) [mm]	145x220x282 (B) 145x220x282 (S)	145x220x397 (B) 145x220x397 (S)	190x318x421 (B) 145x220x397 (S)	190x688x369 (B) 190x688x369 (S)	190x688x442 (B) 190X318X442
Weight (with batteries)	9.8 kg (B) 4.1 kg (S)	17.0 kg (B) 6.8 kg (S)	27.6 kg (B) 7.4 kg (S)	61 kg (B) 12 kg (S)	76 kg (B) 16 kg (S)
Acoustic noise (acc. To IEC 62040-3)					
in normal mode (at <=25°C) at 100 / 50% Load	<55 dBA	<55 dBA	<55 dBA	<55 dBA	<55 dBA
in battery mode (at <=25°C) at 100 / 50% Load	<53 dBA	<53 dBA	<53 dBA	<53 dBA	<53 dBA
SAFETY					
Access	Operator				
Degree of protection against hazards and water ingress : IP 20					
Electromagnetic compatibility					
Compliant to IEC 62040-2	Yes	Yes	Yes	Yes	Yes
Category Emission / Immunity	C2	C2	C2	C3	C3
Environmental					
Storage temperature range	-15° - +60°C				
Operative temperature range storage	0°C - +40°C				
Storage (models with batteries)	0°C - +35°C				
Relative humidity	< 95% (non-condensing)				
Max. altitude without de-rating	2000m (above 2000m, 1% de-rating every 100m according to IEC/EN 62040-3)			1000m (above 1000m, 1% de-rating every 100m according to IEC/EN 62040-3)	
Additional and usual information					
Input connection	3 wires, 1 phase + N + PE				
Output connection	3 wires, 1 phase + N + PE				
Cable entry	Rear				
Battery cable entry	Rear				
Accessibility	Front only				
Air outlet	Rear				
Options					
Environment monitoring probe (for 1-3 kVA only)					
External battery modules (EBM)					
Network interface cards / box					
Relay card with potential free contacts (customer outputs)					
ATS 16 A (for 1-3 kVA) only)					
ModBus card					
Included (default)					
Sea freight packaging (carton box)	Included	Included	Included	Included	Included
Back-feed protection	Internal	Internal	Internal	See manual	See manual

Technical specifications

Input characteristics	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Rated voltage (steady-state, r.m.s.)	120-285VAC (de-rating to 60% @ 120V)	120-285VAC (de-rating to 60% @ 120V)	120-285VAC (de-rating to 60% @ 120V)	110-300VAC (de-rating to 50% @ 110V)	110-300VAC (de-rating to 50% @ 110V)
Nominal voltage	220 VAC / 230 VAC / 240 VAC	220 VAC / 230 VAC / 240 VAC	220 VAC / 230 VAC / 240 VAC	208 VAC 220 VAC / 230 VAC / 240 VAC	208 VAC 220 VAC / 230 VAC / 240 VAC
Tolerance, referred to 230V	-22% / +30% at <100% load, -31% / +30% at <80% load.	-22% / +30% at <100% load, -31% / +30% at <80% load.	-22% / +30% at <100% load, -31% / +30% at <80% load.	-23% / +20% at <100% load, -33% / +20% at <80% load.	-23% / +20% at <100% load, -33% / +20% at <80% load.
	-41% / +30% at <70% load, -48% / +30% at <60% load.	-41% / +30% at <70% load, -48% / +30% at <60% load.	-41% / +30% at <70% load, -48% / +30% at <60% load.	-43% / +20% at <60% load, -48% / +20% at <40% load.	-43% / +20% at <60% load, -48% / +20% at <40% load.
Frequency, rated	50 Hz / 60 Hz (selectable)				
Frequency, tolerance	40 Hz- 70 Hz	40 Hz- 70 Hz	40 Hz- 70 Hz	46 Hz- 54 Hz (50 Hz system) / 56 Hz- 64 Hz (60 Hz system)	46 Hz- 54 Hz (50 Hz system) / 56 Hz- 64 Hz (60 Hz system)
Current (r.m.s.), rated (with battery charged and input 230V)	4.9 A	9.6 A	14.2 A	25.5 A	42 A
Current (r.m.s.), maximum (with charging batt. and input 230V)	5.2 A (B) 5.9 A (S)	10.2 A (B) 11.4 A (S)	15.0 A (B) 16.9 A (S)	30 A	47.5 A
Total harmonic distortion (THDi)	< 12% @ 100% R Load	< 12% @ 100% R Load	< 12% @ 100% R Load	< 5% @ 100% R Load	< 5% @ 100% R Load
Power factor	>0.95 @ 100% load	>0.99 @ 100% load	>0.99 @ 100% load	>0.995 @ 100% load	>0.995 @ 100% load
Rated short-time withstand current (I_{cw})	3 kA for 1.5 cycles	3 kA for 1.5 cycles	3 kA for 1.5 cycles	6 kA for 1.5 cycles	6 kA for 1.5 cycles
AC power distribution systems:					
Phases required	1	1	1	1	1
Neutral required	Yes	Yes	Yes	Yes	Yes
Additional and usual information					
Connection	3 wires, 1 phase + N + PE				
Cable entry	Rear				
Walk In/Soft Start	Yes (Power supply needed only for first start-up)				

Technical specifications

Output characteristics	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Rated power	900 W	1800 W	2700 W	5400 W	9000 W
AC power distribution system: TN-C, TN-C-S, TN-S,TT					
Available phases	1				
Neutral available	Yes				
Rated voltage (steady state, r.m.s.)	220 I 230 I 240 VAC (no de-rating)			208 I 220 I 230 I 240 VAC (no derating)	
Variation in normal mode / battery mode	± 1%				
Total harmonic distortion (thdu), 100% load, normal mode:					
Linear	< 3%	< 3%	< 3%	< 3%	< 3%
Non-linear (acc. to IEC 62040-3)	< 6%	< 6%	< 6%	< 5%	< 5%
Total harmonic distortion (thdu), 100% load, battery mode:					
Linear	< 3%	< 3%	< 3%	< 3%	< 3%
Non-linear (acc. to IEC 62040-3)	< 6%	< 6%	< 6%	< 5%	< 5%
Voltage transient and recovery time, 100% step load:					
Linear	20 ms				
Non-linear (acc. to IEC 62040-3)	100 ms				
Transfer normal mode--> battery mode	0 ms				
Frequency (steady-state), rated	Synchronized with the input mains: 47-53 Hz for 50 Hz system 57 - 63 Hz for 60 Hz system Range adjustable in 50 / 60 Hz +/- 3Hz				
Variation in free-running	+/ 0.1 Hz	+/ 0.1 Hz	+/ 0.1 Hz	+/ 0.1 Hz	+/ 0.1 Hz
Max. synch phase error (referred to a 360^0 cycle)	$\leq 3^0$	$\leq 3^0$	$\leq 3^0$	$\leq 3^0$	$\leq 3^0$
Max. slew-rate	1 Hz/s	1 Hz/s	1 Hz/s	1 Hz/s	1 Hz/s
Nominal current (In), r.m.s. rated	4.5 A	9 A	13 A	26.1 A	43.5 A
Overlead on inverter (line mode)	Immediately:> 150% load; 3s : 130°0 -150% load; 30s : 110%-130% load 10 minutes : 105%-110% load Continuous: 100%-104% load			10s: >130% load; 5m : 110% -130% load; 30m : 100%-109% load	
Fault clearing capability normal mode and battery mode (100ms)* default	2.0 x In	2.0 x In	2.0 x In	3 x In	3 x In
Crest factor (Load supported)	3 : 1	3 : 1	3 : 1	3 : 1	3 : 1
Load power factor, rated	1.0	1.0	1.0	1.0	1.0
Displacement (permissible lead-lag range)	0.5 lead - 0.5 lag	0.5 lead - 0.5 lag	0.5 lead - 0.5 lag	0.5 lead - 0.5 lag	0.5 lead - 0.5 lag

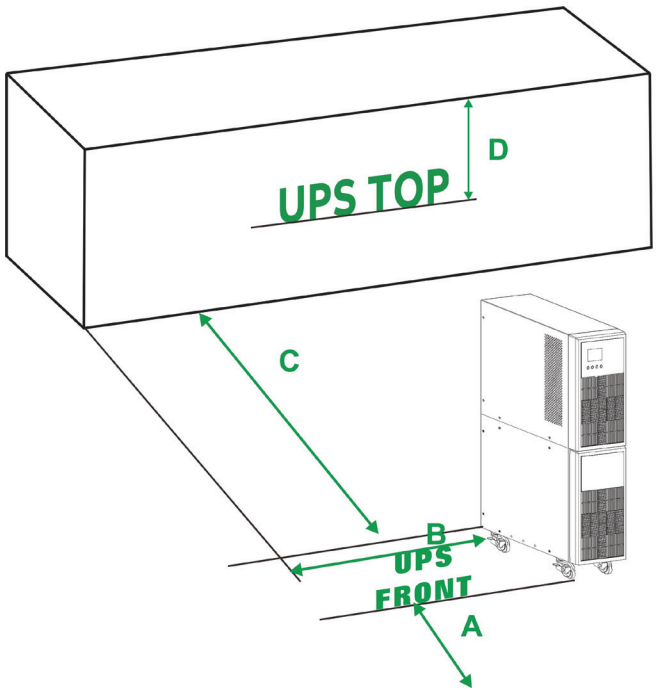
Technical specifications

Output characteristics	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Double conversion efficiency in normal mode, linear load:					
100% load	88%	88%	90%	92%	92%
75% load	87%	89%	89%	93%	93%
50% load	84%	86%	86%	93%	93%
25% load	80%	82%	83%	91%	93%
Eco-mode efficiency, linear load	≥93%	≥94%	≥95%	N/A	N/A
Bypass-automatic : static switch					
Transfer time: inverter to bypass / bypass to inverter / inverter to eco-mode / eco-mode to inv.	<8 ms / <8 ms / <8 ms / <8 ms /	<8 ms / <8 ms / <8 ms / <8 ms /	<8 ms / <8 ms / <8 ms / <8 ms /	<0 ms / <3 ms / NA / NA	<0 ms / <3 ms / NA / NA
Fault clearing capability (bypass mode) for 20 ms	26.6 x In[1)] (120A)	22.2 x In1) (200A)	15.3 x In1) (200A)	15.3 x In1) (400A)	13.3 x In1) (580A)
Overload on bypass mode		1m: 130%-150 load, 1 Om: 120% - 130 load, 30m: 110% -120% load		10s: >130% load, 5m: 110% - 130% load, 30m: 100% - 110% load	
Bypass - maintenance	Optional, external	Optional, external	Optional, external	Optional, external	Optional, external
Bypass protection fuse or circuit breaker rating	External fusing according to section Cables and Fuses				
Battery characteristics					
Technology	VRLA, vented lead-acid				
Number of 12 V blocks (fixed)	2 (B)	4 (B)	6 (B)	16 (B)	20 (B)
	- (S)	- (S)	- (S)	- (S)	- (S)
Battery charger max. charger current capabilities	1 A (B) 1A/2A/4A (S) Adjustable (4A default) (S)	1 A (B) 1A/2A/4A (S) Adjustable (4A default) (S)	1 A (B) 1A/2A/4A (S) Adjustable (4A default) (S)	1 A/2 A Adjustable (1 A default) (B) 1 A/2A/4A/ 6A Adjustable (4A default) (S)	0-12 A Adjustable (4A default)
Battery charger max. power charger capability	24W(B) 216 W (S)	48W(B) 432 W (S)	72W(B) 432W (S)	451 W (B) 1354 W (S)	564 W (B) 1128 W (S)
Floating voltage (VRLA)	2.275V/pc	2.275V/pc	2.275V/pc	2.275V/pc	2.275V/pc
End of discharge voltage (VRLA)	10.7V/pcs, 0~30% Load 10.2V/pcs, 30% ~70% Load 9.6V/pcs, >70% Load	10.7V/pcs, 0~30% Load 10.2V/pcs, 30% ~70% Load 9.6V/pcs, >70% Load	10.7V/pcs, 0~30% Load 10.2V/pcs, 30% ~70% Load 9.6V/pcs, >70% Load	Load dependent - 1.6VDC/cell	Load dependent - 1.6VDC/cell
Temperature compensation	Yes	Yes	Yes	No	No
Battery test	Automatic and periodic battery test (selectable)	Automatic and periodic battery test (selectable)	Automatic and periodic battery test (selectable)	Automatic and periodic battery test (selectable)	Automatic and periodic battery test (selectable)

Technical specifications

User interface - communication		
Standard items		
RS232 on Sub-D9 port	for service and for CS141 box	
Connectivity slot	for integration of optional connectivity and relay card	
Display	LCD display	
EPO	No	Emergency Power Off
USB (monitoring software, HID)	Yes	

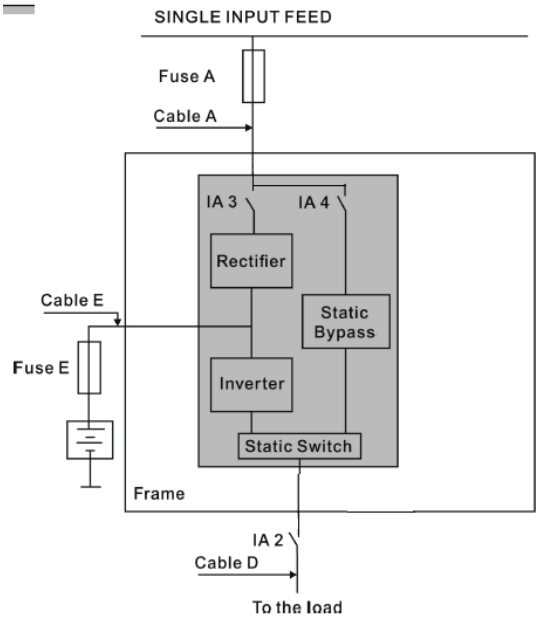
Clearances	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Minimum clearances for single UPS					
A	25 cm	25 cm	25 cm	38 cm	38 cm
B	0 cm	0 cm	0 cm	38 cm	38 cm
C	25 cm	25 cm	25 cm	38 cm	38 cm
D	0 cm	0 cm	0 cm	0 cm	0 cm
Minimum clearances for UPS plus other cabinets in row					
A	25 cm	25 cm	25 cm	38 cm	38 cm
B	0 cm	0 cm	0 cm	0 cm	0 cm
C	25 cm	25 cm	25 cm	38 cm	38 cm
D	0 cm	0 cm	0 cm	0 cm	0 cm



Thermal data and cable sizing

Heat dissipation	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Air-flow	From front to back	From front to back	From front to back	From front to back	From front to back
Heat dissipation with 100% linear load	123 W	223 W	300 W	594 W	900 W
Heat dissipation with 100% linear load (acc. to 62040-30	165 W	290 W	410 W	376 W	627 W
Air-flow (25° - 30°) with 100% non-linear load	40.000 m3/h / 64.000 m3/h	81.000 m3/h / 136.000 m3/h	81.000 m3/h / 194.000 m3/h	141.000 m3/h	160.000 m3/h
Heat dissipation without load	48 W	55 W / 58 W	70 W / 75 W	74 W	82 W

Cable & Fuse
Cable sections and fuse ratings recommended according to (IEC 60950-1)



Ratings	1 kVA (B/S)	2 kVA (B/S)	3 kVA (B/S)	6 kVA	10 kVA
Single input feed					
Input fuse A-type: gL or CB	1 x 10A	1 x 16A	1 x 20A	1 x 50A	1 x 63A
Input cable A	3 x 0.75mm2	3 x 1.5mm2	3 x 1.5mm2 for 3kVA B 3 x 2.5mm2 for 3kVA B 3 x 1.5mm2 for 3kVA B	3 x 4mm2	3 x 5.5mm2
Output cable D	3 x 0.75mm2	3 x 0.75mm2	3 x 2.5mm2 and 3 x 1.5mm2 for 3kVA S	3 x 4mm2	3 x 5.5mm2
Battery fuse E-Type: gR or CB	2 x 30A	2 x 30A	2 x 30A	1 x 50A	1 x 63A

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Technical telephone support for
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