PowerTower™ Green Series
Online Double Conversion Modular UPS
6kVA – 1200kVA

VFI

## » Modular Design   » Scalable   » Pay as you grow

The BPC PowerTower Green modular UPS covers 6kVA – 1200kVA capacity in a single frame, with the latest advanced digital signal processor (DSP) technology and three level inverter design ensures the highest level of efficiency and reliability can be attained for the whole product range.

The modular designs meet modern IT aesthetics in 19" enclosures aligned with data centre space infrastructure or the PowerTower can be integrated into the existing same data centre rack utilising a 'rack independent' UPS solution, providing a perfect combination of power management. Vertical scalability can be achieved by adding modules as and when required.

- » **Financial Data Centre**
- » **Internet Data Centre**
- » **Disaster Recovery Data Centre**
- » **Telecom Central Systems**
- » **Government Authorities**

Advanced Power Conversion Solutions

OPTIMISE CAPITAL INVESTMENT

The BPC PowerTower can be scaled in vertical modular steps up to 1200kVA of power in a single frame, providing a cost effective method of building any data centre without oversizing that can result in energy waste. Flexibility and cost effective 'right-sizing' of any UPS system must be priority when increasing or decreasing power to meet future requirements.
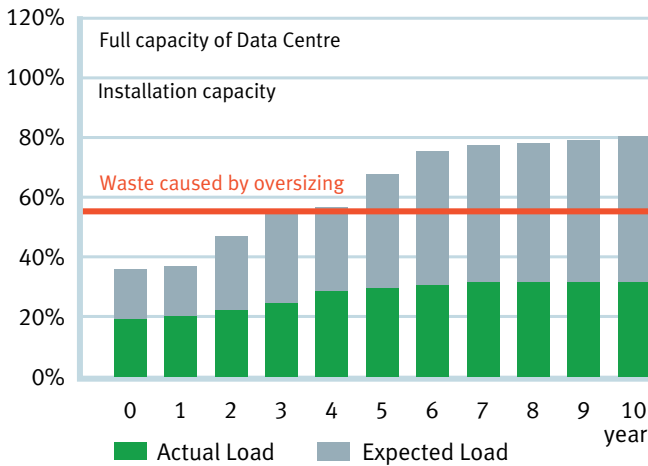

Oversizing Results in Energy Waste

EXCELLENT POWER PERFORMANCE

The PowerTower UPS has a near unity input power factor at full load, reducing the size of the input cables/fuses. Low total input harmonic distortion (THDi <3%) reduces load pollution, increases power quality and optimises generator sizing. Overall this excellent power performance directly translates into significant reduction in installation costs and extends the life of valuable equipment.

TUNNEL AIR FLOW

The PowerTower Green air flow technology has a dynamic thermal effect of funnelling the core temperature of the key components.
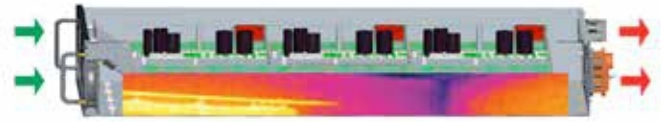
Simply by directing the heat dissipated from power PCB components into the heat sink tunnel area, which is then efficiently removed from each power module, the active power electronics area is kept at an optimum lower temperature resulting in longer component design life and increasing periods between maintenance visits.

HIGH QUALITY

BPC incorporate dust filters into each module so that the unique design structure and air flow technology can allow the UPS to run in dusty environments, significantly improving its stability and environmental adaptability with IP31 protection on each module.

TRUE 'HOT SWAP' CAPABILITY

The BPC PowerTower modular UPS operates a true hot swap technology where each power module is automatically synchronised to the load sharing of the system. There is no need to identify individual power modules or sequence them in any particular order. The monitoring module and static transfer switch (STS) module are also designed to be hot swappable, making system maintenance easy. Simply insert the power, monitor and STS modules into the slots and engage. The process of replacement or vertical scalability is easily achieved and hot swapping means no downtime and the service/operating personnel do not require special skills.

Easy hot swappable design modules

EASY INSTALLATION & OPERATION

The PowerTower offers a flexible install so assembly time is greatly reduced. Bottom and top entry with generous cable management will simplify the more difficult installation. BPC's PowerTower Green UPS is very easy to maintain and control, providing the highest reliability and best protection for supplying power.

Options are available for Galvanic Isolation Transformer cabinet, front 10" colour screen display, improved battery management, frequency conversion, conformal coating, input & output switchgear.

LOW MTTR AND 99.9999% AVAILABILITY

The 'hot swap' modularity design of the PowerTower Green provides a high mean time between failure (MTBF), allowing the user to replace and add modules without the risk of downtime, ultimately reducing mean time to repair (MTTR). Whereas a standalone unit takes typically 6 hours to repair, the PowerTower modular UPS can be reduced to less than 30 minutes, giving 'six nines' power availability.

SMALL FOOTPRINT

The PowerTower Green can deliver one of the highest power density up to 450kW/m² and requires minimal space clearance around the unit so floor space required in data centres for UPS can be kept to an absolute minimum.

HIGH LOAD ADAPTABILITY (BLADE FRIENDLY)

All PowerTower Green Modular UPS systems are provided with an output power factor of 0.9, providing fully rated output – active power without de-rating in the range of 0.7 lagging to 0.8 loading in compliance with modern IT equipment.

SINGLE FRAME CONCEPTS

BPC offers more single frame solutions than any other manufacturer, with 12, 24, 36, 50, 100, 150, 200, 250, 300, 350, 500, 800 and 1200kVA chassis, reducing the need to parallel cabinets and improving the reliability of installations.

All systems can be configured to various input and output configurations 1/1, 3/1, 1/3 and 3/3 phases.

HIGH EFFICIENCY

The PowerTower Green offers true online efficiency over 96% at even 50% load, significantly reducing system running costs and site air-conditioning expenses, thus helping to reduce the organisations carbon footprint.

Efficiency (%) vs Load (%) graph showing 95.7, 96.4, 96.1, 95.9
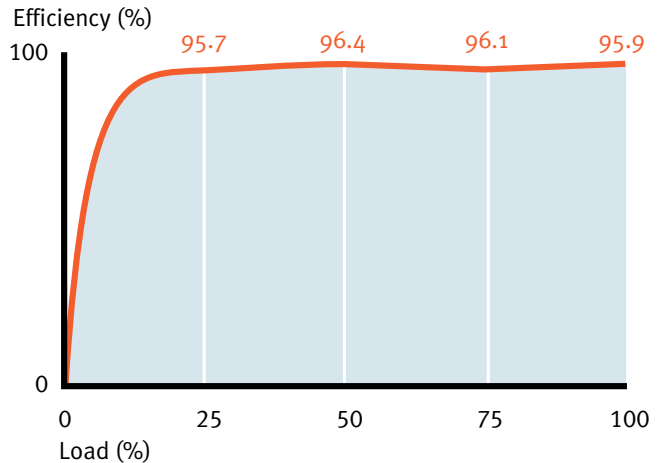
Taking a small to medium data centre 200kVA/180kW load and air conditioned with coefficient performance of 3:1

- Save 127,144KwH per year compared to traditional UPS (90% efficiency)
- Save 210,240KwH per year compared to legacy UPS (86% efficiency)

In DC/AC inverter mode, when the power supply is not present, the battery efficiency is over 98% reducing actual battery capacity requirement and improving design life.

TOTAL COST OF OWNERSHIP (TCO)

The PowerTower Green UPS offers today's data centre management the opportunity for sustainability and future growth. With flexibility and scalability combined with lower cost of service contracts, short and long term, we can increase savings on overall operations.

Vertical Scalability by adding power modules up to 1200kVA

Horizontal Scalability
possible with up to 4 frames in parallel, achieving total power capacity of 4.8mVA

PowerTower™ Green CMS
Three Phase Online Double Conversion UPS
10kVA – 1200kVA

The PowerTower Green CMS Modular Series from BPC Energy covers 10kVA – 1200kVA capacity and delivers the best combination of reliability, functionality and scalability at a competitive price. Designed specifically for data centres, computer systems and critical applications, this innovative and reliable power system commits to meet market requirements.

The CMS UPS architecture can scale power as demand grows or as higher levels of availability are required up to 1200kVA in a single frame, with the possibility of connecting frames in parallel to obtain an overall total of 4.8mVA maximum capacity.

- **AC – AC efficiency ≥96%**
- **DC – AC efficiency ≥98%**
- **Input power factor 0.99**
- **N+X module level redundancy UPS**
- **Multi-level decentralised control technology**
- **Battery discharge management**
- **Space saving high density design**
- **Monitoring function**
- **1/1, 3/1, 1/3 and 3/3 configuration options**

PTGCMS 50/10
- 10-50kVA Power Capacity
- 10kVA UPS module
- 5 module slots

PTGCMS 100/10
- 10-100kVA Power Capacity
- 10kVA UPS module
- 10 module slots

PTGCMS 150/25
- 25-150kVA Power Capacity
- 25kVA UPS module
- 6 module slots

PTGCMS 200/25
- 25-200kVA Power Capacity
- 25kVA UPS module
- 8 module slots

PTGCMS 250/25
- 25-250kVA Power Capacity
- 25kVA UPS module
- 10 module slots

PTGCMS 300/25
- 25-300kVA Power Capacity
- 25kVA UPS module
- 12 module slots

PTGCMS 350/50
- 50-350kVA Power Capacity
- 50kVA UPS module
- 7 module slots

PTGCMS 500/50
- 50-500kVA Power Capacity
- 50kVA UPS module
- 10 module slots

PTGCMS 800/50
- 50-800kVA Power Capacity
- 50kVA UPS module
- 16 module slots

PTGCMS 1200/50
- 50-1200kVA Power Capacity
- 50kVA UPS module
- 24 module slots

PowerTower Green CMS Features

STS MODULE

- Transfer time ‹ 1ms
- Overload ability (100% - 1min)
- Self-diagnostics, interlock and protection functions
- Fully hot swappable, can be replaced easily without forced shutdowns

MONITOR MODULE

- Dual core 16-bit processor
- Easy to read 240 x 64 LCD touch controller
- Display of general, system, battery and module information, system output, event record and index set up
- RSS232 and RS485 communication
- Output dry contacts
- TCP/IP, SNMP (optional)

POWER MODULES

PTG10M – 10kVA Power Module

PTG25M – 25kVA Power Module

PTG50M – 50kVA Power Module

CABINET OPTIONS

Additional space for cable management

Input and output switch breakers can be included

- Online double conversion technology ensures reliable power supply
- High efficiency reduces power and cooling costs
- Each UPS module is a fully functional UPS including a converter, inverter, charger and controller
- Intelligent communication ports
- Dust proof design (IP31), online cleanable filter

PowerTower Green CMS
Technical Specification

MODEL	PTGCMS 50/10	PTGCMS 100/10	PTGCMS 150/25	PTGCMS 200/25	PTGCMS 250/25	PTGCMS 300/25	PTGCMS 350/50	PTGCMS 500/50	PTGCMS 800/50	PTGCMS 1200/50
Power Rating kVA Max.	50	100	150	200	250	300	350	500	800	1200
Compatible Power Module	PTG10M		PTG25M				PTG50M			
INPUT										
Nominal Voltage	380 V / 220 V, 400 V / 230 V, 415 V / 240 V (1Ph + N + E, 3Ph + N + E)									
Voltage Range	±20%									
Frequency Range	50 Hz or 60 Hz									
Power Factor	≥0.99									
OUTPUT										
Nominal Voltage	380 Vac / 220 Vac, 400 Vac / 230 Vac, 415 Vac / 240 Vac (1Ph + N + E, 3Ph + N + E)									
AC Voltage Regulation (Battery Mode)	±1%									
Power Factor	0.9									
Crest Factor	3:1									
Harmonic Distortion (Linear Load)	TDH ≤1%									
Transfer Time	Zero									
Waveform	Sinewave									
EFFICIENCY										
AC Mode	›96%									
Battery Mode	›98%									
BATTERY										
Battery Type	VRLA Sealed Lead Acid Maintenance Free Batteries									
Charging Ability	10 hours (2 hours back up)									
Charging Voltage Stability	± 1%									
GENERAL										
Display	Touch LCD/LED Screen									
Communication	RS232, RS485, 8 Dry Contacts, TCP/IP Adaptor, SNMP (Optional)									
Operating Temperature	-5 ~ 40°C									
Operating Humidity	0 - 95% (non-condensed)									
Acoustic Noise	55 dB @ 1 metre									
Protection Degree	IP30									
Cabinet (single) — Dimensions (mm) WxDxH	600 x 800 x 1200	600 x 800 x 1600		600 x 800 x 2000	800 x 800 x 2000	1400 x 800 x 2000	800 x 1000 x 2000	1400 x 1000 x 2000	2200 x 1000 x 2000	2400 x 1000 x 2000
Cabinet (single) — Net Weight (kgs)	150	200		240	300	470	400	500	700	1000

MODEL	PTG10M	PTG25M	PTG50M
Capacity kVA/kW	10kVA/9kW	25kVA/22.5kW	50kVA/45kW
Input / Output Mode	1/1, 3/1, 1/3, 3/3, (Ph + N + E)		
Input Power Factor	±0.99		
THDI	≥3%		
Overload Ability	125% for 10 min, 150% for 1 min.		
Max. Charging Power	2.5kW	6kW	12kW
Max. Heat Dissipation	475W	1187W	2375W
Dimensions (mm) WxDxH	482 x 465 x 89	482 x 465 x 133	482 x 700 x 176
Weight (kgs)	16	20	40

Advanced Power Conversion Solutions

The BPC Group

BPC is an international company operating for 20 years globally, with partners and distributors located around the world.

These regions include:

EUROPE
UK, France, Germany, Gibralta, Ireland, Netherlands, Malta, Norway, Portugal.

MIDDLE EAST
Bahrain, Jordan, Kuwait, KSA, Lebanon, Oman, Qatar, UAE, Yemen.

AFRICA
Burkina Faso, Democratic Republic of the Congo, Egypt, Ethiopia, Kenya, Ghana, Libya, Nigeria, Rwanda, Sierra Leone, Sudan, Tanzania, Uganda, Zambia.

FAR EAST & ASIA
India, Pakistan, Sri Lanka.

To ensure a high level of pre and post-sales support is offered, BPC work closely with distributors, providing key commercial and technical training whilst providing competitive costing structures tailored to specific region markets, ensuring the most suitable BPC products are offered. We pride ourselves on long standing relationships with our partners which is reflected in the ongoing support provided locally.

BPC ENERGY

The British Power Conversion Company

Authorised Distributor