



KEEPING THE POWER ON FOR 20 YEARS

Advanced *Power Conversion* Solutions



THE BRITISH POWER CONVERSION COMPANY™

Who We Are

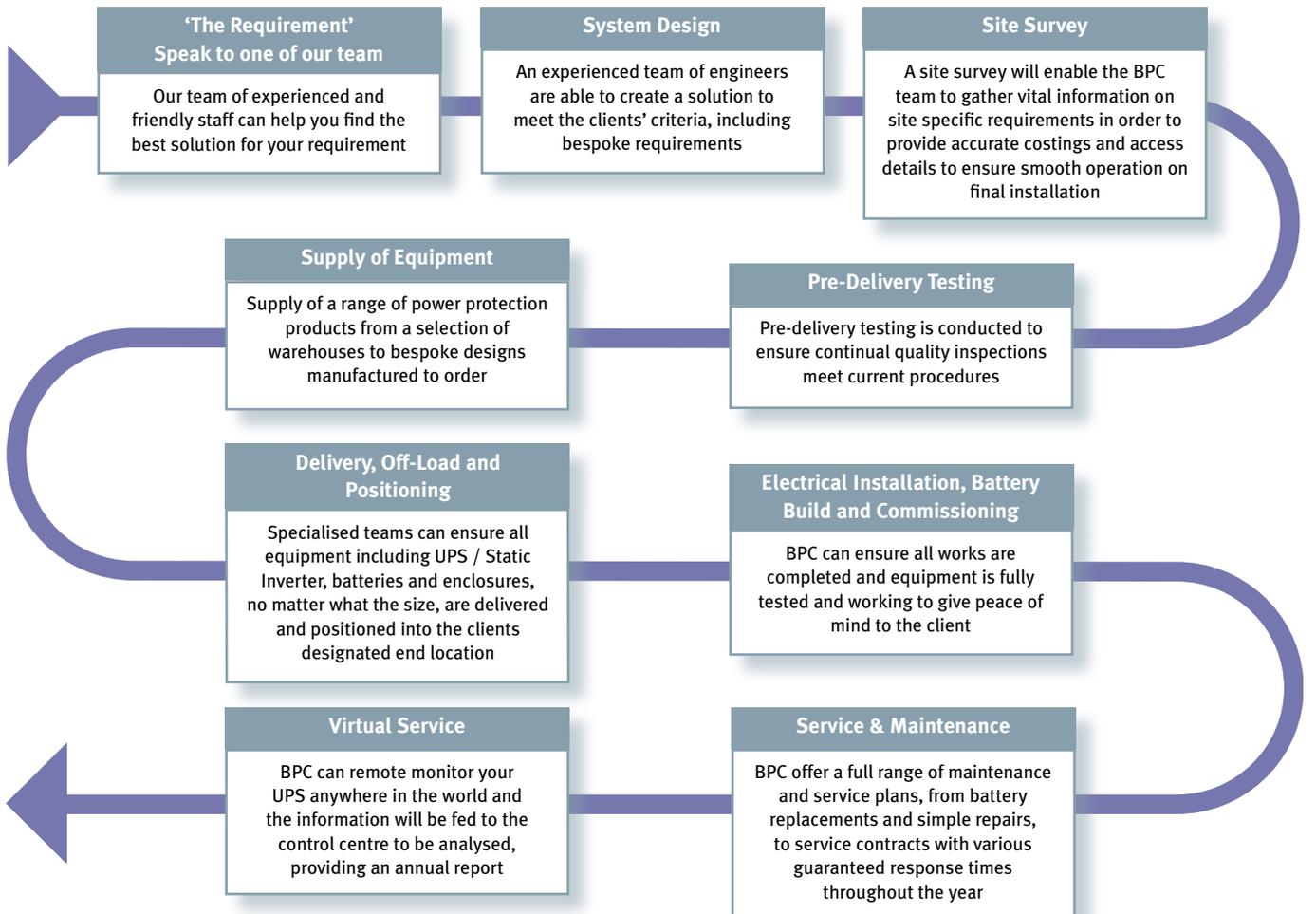
Founded in 1996, The British Power Conversion Company, based in Romsey, Hampshire, is an independently owned international corporation offering an established and effective range of power protection products and services to a broad spectrum of industries and sectors.

Over the past 20 years our business has evolved and we no longer just operate under the traditional fields of UPS Systems and Batteries. Our continued growth in manufacturing of Modular UPS, Static Emergency Lighting Systems, Long Runtime Inverters and Static Transfer Switches for critical applications has developed into a major part of our group. We are also actively developing PV (Solar) and associated products for Wind and Turbine Generators to address the major growth in the 'Renewable Energy' market.

The BPC Group has seen BPC Energy evolve as the predominant company for the manufacturing and distribution of power protection products, alongside a dedicated distributor network in Europe, Middle East and Africa. Whilst BPC EMEA focuses on research and development, Actual Power remains an important part of our committed service network in the UK.



ISO 9001-2008 For design, assembly, commissioning, testing and servicing



Advanced Power Conversion Solutions

Our Products

BPC Energy manufacture and distribute a wide range of UPS and related power protection products aimed at the Computer, Telecom, Midrange Computer, Data Centre, Emergency Lighting, Industrial and Three Phase sectors of the market.

BPC Energy is at the forefront of modern power protection with expertise in the design, development and manufacture of special and custom systems enabling us to meet the diverse needs of the computing, leisure, industrial, commercial, emergency services, medical, lighting, military & government markets. As well as an extensive range of UPS and Batteries, we also offer a variety of products such as Frequency and Voltage Converters, Static Inverters, Solar Inverters, Rectifiers and Generators. If required, BPC can also provide bespoke solutions based on tender specifications to meet specific customer requirements.



Our Service

BPC's devotion to excellence is reflected in the enduring quality of its products and is matched by an equally lasting commitment to customer care. Not only do we pride ourselves on competitive prices and quality products, we also have a comprehensive Service Department offering a full range of services, from Site and Power Surveys, Commissioning and Battery-Builds to Service Contracts, Maintenance Visits and Remote Monitoring Solutions.

We provide a dedicated customer service to the UK and International markets and, combined with our extensive range of UPS and power protection products, we have a solution for every application.



SAFE contractor approved for high standards of health and safety practice



The Contractors Health and Safety Assessment Scheme

Our Training

BPC Energy offer fully specialised and flexible training courses led by highly experienced and knowledgeable engineers for any requirement, from new product training to bespoke general UPS topology subjects. Quality CPD approved training courses can be held at BPC comprehensive headquarters in the UK offering a mixture of both classroom and workshop facilities to allow for all aspects of theory and practical training.

As an established international company with offices globally, BPC have the flexibility to also carry out training at customer sites upon request wherever the location may be.

Courses can last anywhere between half a day or up to 10+ days depending on course content and duration request.



Industries & Applications

Governmental



Working with government authorities as an approved and trusted supplier, experienced in tender submittal processes.

- » **Ministry of Finance, Jordan**
- » **Egyptian Customs Authority, Egypt**
- » **Oxford University, UK**

Telecommunication



It is important for any business to ensure telephone systems are provided with uninterrupted power to ensure business continuity, often with long runtime requirements.

- » **Batelco, Bahrain**
- » **Omantel, Sultanate of Oman**
- » **Motorola, Kuwait**

Military



Military applications often require specific design specifications such as specialised enclosures, high IP ratings and voltage and frequency conversions.

- » **Signals Regiment, UK**
- » **G.H.Q. Army Forces, Jordan**
- » **US Navy, Bahrain**

Medical



Providing essential power protection for critical equipment within a medical environment such as MRI scanners and life support machines.

- » **Huddersfield Royal Infirmary, UK**
- » **Toshiba, UAE**
- » **Farwanya Hospital, Kuwait**

Sporting Grounds



It is essential to ensure continual power during high profile sporting events supporting emergency lighting, ticketing booths, computer networks and CCTV.

- » **Everton Football Club, UK**
- » **Olympic Stadium, UK**
- » **Sandown Park Racecourse, UK**

Airports



Airports are busy environments with many types of critical equipment requiring power protection essential in the day to day running including Radar, control towers, IT/networks, security and lighting.

- » **Liverpool Airport, UK**
- » **Cairo International Airport, Egypt**
- » **Abu Dhabi Airport, UAE**

Advanced Power Conversion Solutions

Industrial



Industrial applications often need bespoke designs to meet unique and rigorous requirements. BPC specialise in adapted technology to suit every customer.

- » **Airedale Air Conditioning, UK**
- » **Suez Canal Authority, Egypt**
- » **Planet Press, Nigeria**

Emergency Lighting



Emergency lighting in public areas is now standard practice and must meet EN50171 specification to ensure 1hr or 3hr back up times.

- » **Park Plaza Hotel Westminster, UK**
- » **Café Royal, UK**
- » **National Trust, UK**

IT Solutions



IT systems are an integral part of any business. Interrupted or loss of power can cause devastating effects. It is essential to ensure continual power.

- » **Wiltshire Police HQ, UK**
- » **Public Security, Jordan**
- » **Al Ain University, UAE**

Banking



The Banking sector relies heavily on IT solutions. Loss of power can be detrimental with unscheduled downtime and may result in a large financial loss.

- » **Fidelity Bank, Nigeria**
- » **Misr Bank, Egypt**
- » **RAK Bank, UAE**

Others

- » Server Farms
- » CCTV / Security
- » Data Centres
- » Hotels / Tourism
- » Process Control
- » Telephone Systems
- » Retail
- » Petrochemical
- » Marine
- » Manufacturing
- » Transport
- » POS Systems
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Networking

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BPC Group

BPC Product Guide

Choosing the right Power Protection product is key. BPC provides an extensive range of products to suit any requirement or application, priding ourselves on not only providing a hardware solution, but a tailored package to supply the correct size of equipment, runtime required and services to suit client needs.

	UPS	Static Inverter	Solar Products	Other	Topologies	500VA	600VA	650VA	700VA	750VA	800VA	850VA	1000VA	1200VA	1500VA	2000VA	3000VA	4000VA	5000VA	6000VA	8000VA	10kVA	12kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA
PowerStar Xtreme	●				VI			●					●		●														
PowerStar	●				VI			●				●	●				●												
PowerPrem+	●				VI					●			●		●	●	●		●										
PowerGem Xtreme	●				VFI					●			●			●	●												
PowerGem+	●				VFI								●			●	●												
PowerOn	●				VFI								●			●	●												
PowerGem Pro 1/1	●				VFI															●		●		●	●	●			
PowerGem Pro 3/1	●				VFI																	●		●	●	●			
Industrial XA	●				VFI											●		●											
PowerPro Micro	●				VFI															●		●		●	●	●			
PowerPro EF	●				VFI																	●		●	●	●	●	●	●
PowerTower Green	●				VFI															●		●	●		●	●	●	●	●
PowerPro ELXA		●			VI	●								●			●												
PowerPro EL100 Series		●			VFI														●	●	●	●	●	●					
PowerPro EL200 Series		●			VFI																	●		●	●				
PowerPro EL300 Series		●			VFI																	●		●	●	●	●	●	●
Central Battery Systems		●																											
Automatic Voltage Regulators				●												●	●		●			●		●	●	●	●	●	●
Static Transfer Switches				●																									
Home Office Inverter				●	VFD		●					●			●														
Smart Home Inverter				●	VFD			●					●																
Expert Professional Inverter				●	VFD							●				●	●	●	●										
PowerGem Inverter				●	VFD											●						●							
EnerSolar			●		VFD																								

KEEP THE POWER ON™

100kVA	120kVA	160kVA	180kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1200kVA	0.7 Output Power Factor	0.8 Output Power Factor	0.9 Output Power Factor	Tower	Rack	Wall Mounted	Modular	1/1	3/1	3/3	Simulated Sinewave	Pure Sinewave	Online Double Conversion	Transformer Based	Transformerless	Parallelable	USB	RS232	Dry Port Contacts	SNMP Compatible	Emergency Power Off	Remote Monitoring option	Page number		
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NOTE: Capacity max. is stated as standalone systems. Options for paralleling are available on certain models.

Keeping The Power On

Power related problems can occur in two forms: disturbances that occur with a mains supply (this raises concerns within power quality issues), or when the mains supply completely fails (this raises concerns with how to keep systems running and business continuity).

Power supply problems are caused by various sources, for example distribution network faults, system switching, weather and environmental conditions, heavy plant equipment or simply just faulty hardware. Regardless of the cause of the problem, the result will include one or more of the following types of power problems:

SAGS
 Short duration decreases in the mains supply voltage which generally last for several cycles and are one of the more common forms of disturbances.
 When sags occur, sensitive equipment can lock or hang causing data loss and system resets.



SURGES
 Short duration increases in the mains supply voltage which generally last several cycles. When surges occur equipment can suffer from premature failure. The high voltage causes wear and tear and general component degradation.
 This may not be noticeable until failure, although heat out is a good sign.



TRANSIENTS & SPIKES
 Very fast high energy surges lasting only a few milliseconds. When transients or spikes occur equipment can lock or hang, crash and even suffer damage which inevitably causes data loss and corruption. Large transients can occur from local or worst case a direct lightning strike.



ELECTRICAL NOISE
 A high frequency noise that can cause severe disruption and damage to electrical circuits and equipment. This can cause data loss and data processing errors.



BROWNOUTS
 Long term sags in the mains supply voltage which can last up to several days.
 During a brownout, equipment can reset or even shutdown.



BLACKOUTS & MAINS FAILURES
 When the mains supply fails completely this is known as a total mains failure or blackout.
 A break in the mains supply of only several milliseconds is sufficient enough to crash, lock or reset many of the components that make up a typical data or voice processing IP network, such as a PC, terminal, console, server, PBX, printer, modem, hub or router.



FREQUENCY VARIATION
 Caused by the main power source, frequency variations may cause a motor to run faster or slower to match the frequency of the input power. This would force the motor to run inefficiently and/or lead to added heat and degradation of the motor through increased motor speed and/or additional current draw.



HARMONICS
 Mostly cause by non-linear load which pulls the current from the mains supply in large peaks. Loads containing rectifiers, switched mode power supplies, or rotating machines can be attributed to this type of fault.



UPS Topologies

UPS systems are classified into three different types:

- VFD – Voltage & Frequency Dependant
- VI – Voltage Independent
- VFI – Voltage & Frequency Independent

- OFFLINE – (VFD)**
- LINE INTERACTIVE (VI)**
- ONLINE – (Double Conversion) (VFI)**

	VFD	VI	VFI
Blackout	●	●	●
Sags/Brownout	●	●	●
Dynamic Overvoltage	●	●	●
Undervoltage		●	●
Overvoltage		●	●
Transient/Spikes			●
Frequency Variation			●
Voltage Harmonics			●
Surges			●

SoHo Range of Uninterruptible Power Supplies

Line Interactive UPS

650VA – 5kVA

» Reliable » Plug & Play » Intelligent

VI



BPC have a range of Small Office/Home Office related Line Interactive UPS products, designed to offer total power protection to a broad range of applications.

The PowerStar and PowerPrem+ ranges will provide clean and reliable backup power to ensure continued data integrity and optimum performance under a wide range of mains power conditions. This high level of power protection can be incorporated with our advanced power management and diagnostics software package that will allow your IT Manager or Systems Integrator to remotely monitor and manage both the UPS and/or network server.

- » Fully intelligent Line Interactive
- » Microprocessor based design
- » Built-in USB and/or RS232 communication port
- » Boost and buck AVR for voltage stabilisation
- » Overload protection
- » Cold start function
- » Intelligent power management
- » Ideal for PC, IT, telecom applications

PowerStar™ Xtreme – Simulated Sinewave UPS

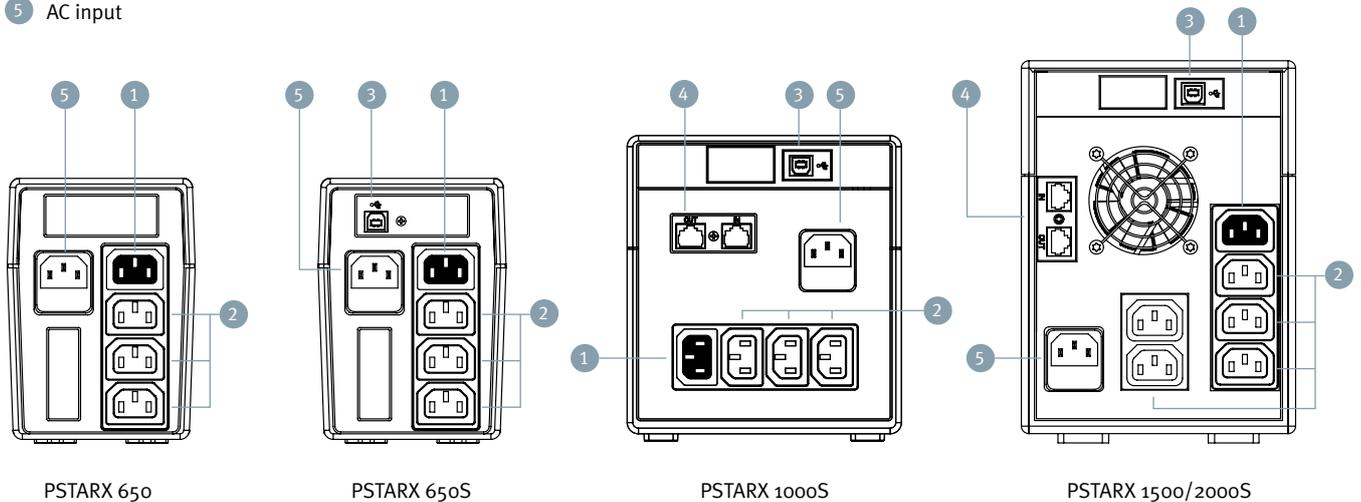
Technical Specification



MODEL	PSTARX 650	PSTARX 650S	PSTARX 1000S	PSTARX 1500S	PSTARX 2000S
Power Rating VA / Watts	650 / 360	650 / 360	1000 / 500	1500 / 900	2000 / 1200
INPUT					
Nominal Voltage	230 Vac				
Voltage Range	140 - 300 Vac			162 - 290 Vac	
Frequency	50 Hz / 60 Hz (auto sensing)				
OUTPUT					
Nominal Voltage	230 Vac				
Frequency	50 Hz ± 1 Hz				
Transfer Time	Typical 4 - 8ms, max. 10ms				
Overload Capability	110% ± 10% (shutdown after 5 minutes), 120% ± 20% (shutdown immediately)				
BATTERY					
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries				
Charging Current (max.)	Approx. 1A				
Charging Voltage	13.7 ± 0.5 V (normal mode)				
GENERAL					
Operating Humidity	0 - 90% RH at 0 - 40°C (non-condensing)				
Acoustic Noise Level	≤40 dB @ 1 metre				
Management Software	N/A	Included			
Dimensions (mm) WxDxH	100 x 287 x 142		146 x 350 x 160	146 x 397 x 205	
Net Weight (kgs)	4.25		8.9	11.1	11.5

Designed for Middle East and Africa

- 1 Surge protected output
- 2 Battery backup output receptacles
- 3 USB communication port
- 4 RJ45 port
- 5 AC input



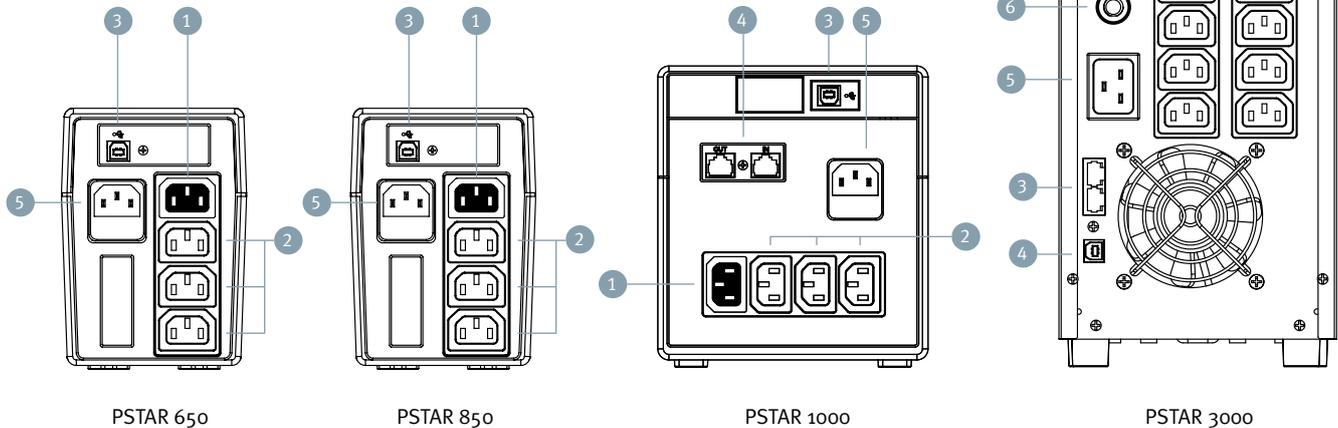
PowerStar™ – Simulated Sinewave UPS Technical Specification



MODEL	PSTAR 650	PSTAR 850	PSTAR 1000	PSTAR 3000
Power Rating VA / Watts	650 / 360	850 / 480	1000 / 600	3000 / 1800
INPUT				
Nominal Voltage	230 Vac			
Voltage Range	162 - 290 Vac			
Frequency	50 Hz / 60 Hz (auto sensing)			
OUTPUT				
Nominal Voltage	230 Vac			
Frequency	50 Hz or 60 Hz \pm 1 Hz			
Transfer Time	Typical 2 - 6ms, max. 10ms			
Overload Capability	110% + 20% / -10% (shutdown after 5 minutes), 120% + 20% / -10% (shutdown immediately)			
BATTERY				
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries			
Charging Current (max.)	Approx. 1A			
Charging Voltage	13.7 \pm 0.5 V			
GENERAL				
Operating Humidity	0 - 90% RH at 0 - 40°C (non-condensing)			
Acoustic Noise Level	<40 dB @ 1 metre			
Management Software	Included			
Dimensions (mm) WxDxH	100 x 287 x 142		146 x 350 x 160	150 x 495 x 250
Net Weight (kgs)	4.25	4.9	8	24.8

Schuko, NEMA & India Type sockets are available on request

- 1 Surge protected output
- 2 Battery backup output receptacles
- 3 USB communication port
- 4 RJ45 port
- 5 AC input
- 6 Input circuit breaker



PowerPrem™+ Pure Sinewave UPS – 800VA - 5kVA



- Microprocessor-based line interactive design
- Pure sinewave output
- Built-in boost and buck AVR
- User-friendly LCD design
- Tower or Rackmount convertible design
- 0.9 output power factor (800VA-3kVA), (0.7 at 5kVA)
- Programmable Power Management Outlets (800VA-3kVA)
- Hot swappable battery design (800VA-3kVA)
- ECO Mode for energy saving
- Emergency power off function (EPO)
- Long runtime models rated at 0.8pf (1kVA-3kVA)
- Multiple communication options available

The PowerPrem+ range of Line Interactive Pure Sinewave UPS is a cost effective solution ideal for Network Server protection and inductive load applications such as lifts, roller shutter doors or motor loads.

The PowerPrem+ range has built-in boost and buck AVR. With built-in voltage regulation, the UPS will maintain regulated nominal output without using battery power during brownouts and overvoltages. Each model has multiple communication options available including an RS232 / USB and SNMP slot. 1kVA-3kVA long runtime models are available to provide extended backup times with larger internal charger options and matching battery cabinets, providing an enhanced and flexible product range to offer complete protection.

RACK/TOWER DESIGN

The PowerPrem+ range is designed to have the flexibility of use as a floor standing tower type UPS or to be integrated into the clients 19" rack cabinet. Each system is supplied with a mounting kit, allowing the user to choose either option of operation.

ADJUSTABLE LCD DISPLAY

The enhanced LCD display can be manually positioned and programmed for use as a rackmount or tower unit to suit the mode of operation, providing an intelligent and easily functional, fully comprehensive display showing all key parameters, alarms and indicators.

HOT SWAPPABLE BATTERIES

Having a hot swappable design for the PowerPrem 800VA-3kVA ensures clean and uninterruptible power to protected equipment during a battery replacement.



ECO MODE OPERATION FOR ENERGY SAVING

The ECO Mode function is available on 800VA-3kVA models allowing for a cost-effective operation of the system as high as 98%. In ECO Mode, the load is supplied by the mains and when the battery is fully charged, the fan will stop running for energy saving. In the event of a mains failure, the inverter takes over the load and provides supply continuity to the connected systems.



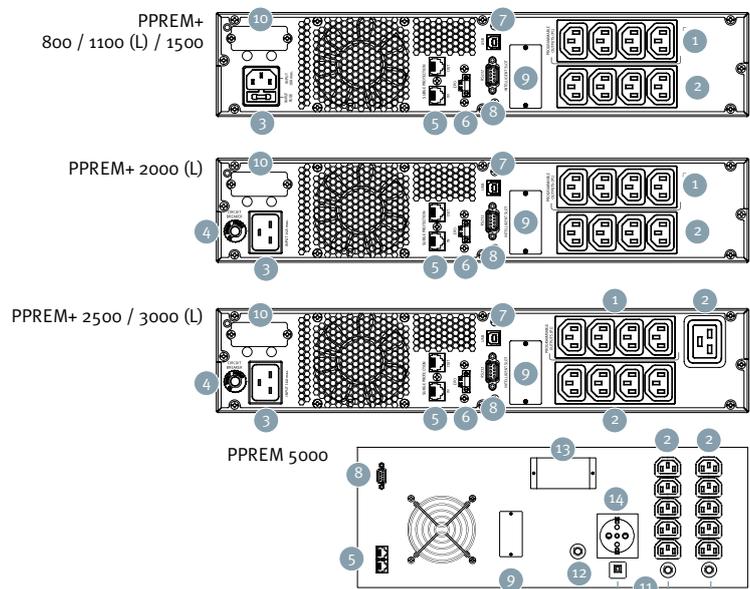
PowerPrem+ Line Interactive UPS Technical Specification



MODEL	PPREM+ 800	PPREM+ 1100 (L)	PPREM+ 1500	PPREM+ 2000 (L)	PPREM+ 2500	PPREM+ 3000 (L)	PPREM 5000	
Power Rating VA / Watts	800 / 720	1100 / 990	1500 / 1350	2000 / 1800	2500 / 2250	3000 / 2700	5000 / 3500	
INPUT								
Nominal Voltage	208 / 220 / 230 / 340 Vac (standard)						200/220/230/240 Vac	
Voltage Range	162 - 290 Vac (standard)						-20%~+24% standard -29%~+33% adjustable	
Frequency	50 Hz / 60 Hz (auto sensing)							
OUTPUT								
Nominal Voltage	208 / 220 / 230 / 340 Vac (standard)						200/220/230/240 Vac	
Frequency	50 Hz / 60 Hz ±1% (batt. mode)						50 Hz / 60 Hz	
Transfer Time	Typical 2 - 6ms, max. 10ms						Typical <4ms	
Overload Capability	103% - 120% shutdown after 5 minutes and go to fault, 120% - 150% shutdown after 10 seconds and go to fault, >150% shutdown after 1 second and go to fault						Overload alarm 100% - 120% Overload shutdown 120% - 190%	
Crest Factor	3:1							
BATTERY								
Standard Model	Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries						
	Charging Current (max.)	1.5A						6A
	Charging Voltage	27.4 Vdc ±1%		54.8 Vdc ±1%		82.1 Vdc ±1%		72 Vdc
Long Runtime Model	Charging Current (max.)	N/A	1A / 2A / 4A / 8A	N/A	1A / 2A / 4A / 8A	N/A	1A / 2A / 4A / 8A	N/A
	Charging Voltage	N/A	27.4 Vdc ±1%	N/A	54.8 Vdc ±1%	N/A	82.1 Vdc ±1%	N/A
GENERAL								
Operating Humidity	0 - 90% RH at 0 - 40°C (non-condensing)						5-90% RH at 0-40°C (non condensing)	
Acoustic Noise Level	<45 dB @ 1 metre						<40 dB @ 1 metre	
Management Software	Included							
Standard Model	Dimensions (mm) WxDxH	438 x 410 x 88		438 x 510 x 88		438 x 630 x 88		435 x 500 x 180
	Net Weight (kg)	12.9	13.4	19.5	21.5	30.63	32.24	80 (incl. battery)
Long Runtime Model	Dimensions (mm) WxDxH	N/A	438 x 410 x 88	N/A	438 x 410 x 88	N/A	438 x 410 x 88	N/A
	Net Weight (kg)	N/A	9	N/A	11	N/A	11.9	N/A

Schuko, NEMA & India Type sockets are available on request

- 1 Programmable outlets, connect to non-critical loads
- 2 Output receptacles, connect to mission-critical loads
- 3 AC input
- 4 Input circuit breaker
- 5 Network/Fax/Modem surge protection
- 6 Emergency power off function connector (EPO)
- 7 USB communication port
- 8 RS-232 communication port
- 9 SNMP intelligent slot
- 10 External battery connector (L models only)
- 11 Re-settable fuses for output
- 12 Re-settable fuse for input
- 13 Inlet (Screw type)
- 14 Schuko Socket



PowerGem™ Xtreme Series

Single Phase Input & Output True Online Double Conversion UPS

750VA – 3kVA

» Economical » Practical » User Friendly

VFI



The PowerGem Xtreme range is a practical, modern, LED design with emphasis on providing a reliable stable power performance for any IT Manager who needs a more economical solution.

The PowerGem Xtreme uses double conversion digital technology that communicates through the RS232 port. When the mains fail, the load is powered from a pure sine wave online inverter, with sufficient autonomy for the PowerView software provided to safely shutdown the client's computer system.

Easy to install with straight forward logical operation that is ideal for the client wanting a more cost effective solution.

- » SoHo
- » Servers
- » Healthcare
- » Industrial
- » Telecommunications

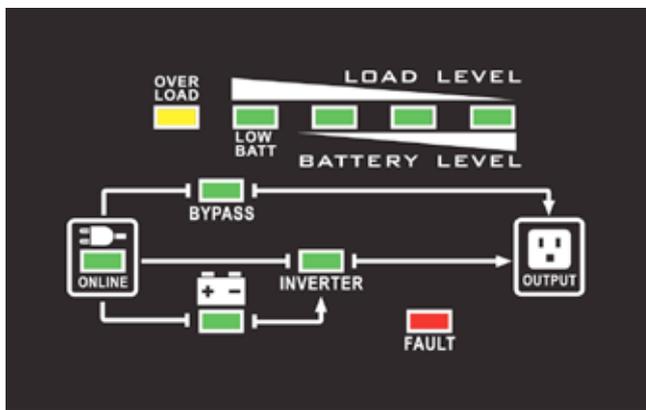
PowerGem Xtreme Features

WIDE INPUT VOLTAGE

Part of the unique design of the PowerGem Xtreme is to improve the performance in adverse site conditions with a wide input voltage window ranging from 110 volts up to 300 volts without the need for the system to transfer into battery mode. Thus not only improving the efficiency of the system but also maximising the life of the battery.

EASY AND SIMPLE FUNCTIONS

The PowerGem Xtreme has a multi-functional LED display to give clear indication of status and modes of operation with both visual and audible fault analysis.



ENVIRONMENTALLY FRIENDLY ENERGY SAVING

The intelligent microprocessor based control system allows for the very low power consumption offered by the interactive ECO Mode of operation which provides efficiencies as high as 98%. The PowerGem Xtreme switches instantaneously to online double conversion operation automatically when the mains becomes unstable and fluctuates outside the normal frequency and voltage parameters.

LOW NOISE LEVEL

It is anticipated that the PowerGem Xtreme will most often be installed in an office workspace and the environment will be an important factor in the design. Therefore, by using modern high frequency technology the noise produced is reduced to less than 50dBA.

- **Wide input voltage (110V – 300V)**
- **True online double conversion**
- **Digital Signal Processor (DSP) technology**
- **Practical multi-functional LED display**
- **True sinewave output**
- **Frequency Converter Mode**
- **RS232 communication port**
- **ECO Mode operation for energy saving**
- **Matching battery cabinets**
- **Generator compatible**

MATCHING BATTERY CABINETS

For mission critical applications requiring longer runtime of higher specification batteries, additional matching battery cabinets can be added. These have been designed both technically and aesthetically to complement the UPS, forming a combined unit which can be easily located without need for special site considerations.



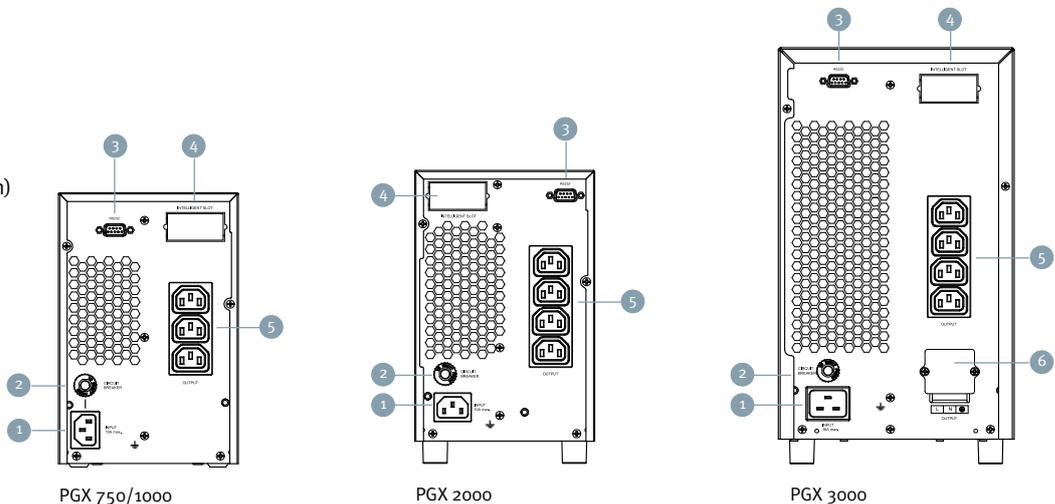


PowerGem Xtreme – Online Double Conversion UPS

Technical Specification

MODEL	PGX 750	PGX 1000	PGX 2000	PGX 3000
Power Rating VA / Watts	750 / 500	1000 / 800	2000 / 1600	3000 / 2400
INPUT				
Nominal Voltage	220 / 230 / 240 Vac	200 / 208 / 220 / 230 / 240 Vac		
Voltage Range	120 - 280 Vac $\pm 5\%$ (50% load) 184 - 280 Vac $\pm 5\%$ (100% load)	110 - 300 Vac (50% load) 160 - 280 Vac (100% load)		
Frequency Range	50 / 60 Hz (auto sensing)	40 - 70 Hz		
Power Factor	≥ 0.95 @ nominal voltage	≥ 0.99 @ 100% Load		
OUTPUT				
Nominal Voltage	220 / 230 / 240 Vac	200 / 208 / 220 / 230 / 240 Vac		
AC Voltage Regulation (Battery Mode)	$\pm 1\%$			
Frequency Range (Synchronised Range)	47 - 53 Hz or 57 - 63 Hz			
Frequency Range (Battery Mode)	50 Hz or 60 Hz ± 0.1 Hz	50 Hz ± 0.25 Hz or 60 Hz ± 0.3 Hz		
Crest Factor	3:1			
Harmonic Distortion (Linear Mode)	$\leq 3\%$ THD			
Transfer Time (AC to Battery)	Zero			
Waveform	Pure Sinewave			
EFFICIENCY				
AC Mode	90%	88%	88%	90%
Battery Mode	80%	83%	85%	88%
BATTERY				
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries			
Battery Numbers	1 x Internal	2 x Internal	4 x Internal	6 x Internal
Typical Recharge Time	4 hours recover to 90% capacity			
Charging Current (max.)	1A			
GENERAL				
Operating Humidity	20 - 90% RH @ 0 - 40°C (non-condensing)			
Acoustic Noise Level	≤ 50 dB @ 1 metre			
Management Software	Included			
Dimensions (mm) WxDxH	100 x 300 x 145	145 x 282 x 220	145 x 397 x 220	190 x 421 x 318
Net Weight (kgs)	5	9.8	17	27.6

- 1 AC input
- 2 Input circuit breaker
- 3 RS-232 communication port
- 4 SNMP intelligent slot (option)
- 5 Output receptacles
- 6 Output terminal



PowerGem™+ Series

Single Phase Input & Output – True Online Double Conversion UPS
1kVA – 3kVA

» Networking

» User-friendly

VFI

» Affordable



The PowerGem+ range has the IT Manager in mind who requires a peripheral networking UPS device with full RS232 / USB and Ethernet communication interface but still requires a low cost solution.

The PowerGem+ has Digital Signal Processor (DSP) technology but in a more compact package with pure sinewave, no-break, online performance for all mission critical applications.

Should long runtime autonomies be required, BPC offer a range of matching battery cabinets so that extended backup options can be added. Provided with a plug-and-play cable package to simplify installation and ease your power protection connectivity concerns.

» SoHo

» Networking

» Healthcare

» Industrial

» Telecommunications

PowerGem+ Features

ADVANCED FUNCTIONAL LCD DISPLAY

The PowerGem+ microprocessor controlled UPS provides an intelligent high density system suitable for powering a wide range of devices both simply and accurately.

The front display panel has a precise backlit LCD with comprehensive controls allowing all the key parameters to be accessed ensuring the IT Manager is shown the complete operating status of UPS and its alarm indications.



MULTIPLE COMMUNICATION OPTIONS

The PowerGem+ has a modern design suitable for networking interaction with multiple communication features which allow either the USB or RS232 ports to work with an SNMP simultaneously. An internal expansion slot is provided for remote control and monitoring agents like optional SNMP and relay contact boards.

WIDE INPUT VOLTAGE

Part of the unique design of the PowerGem+ is to improve the performance in extreme site conditions with a wide input voltage window, ranging from 110 volts up to 300 volts, without the need for the system to transfer into Battery Mode. Thus not only improving the efficiency of the system but also maximising the life of the battery.

LOW NOISE LEVEL

It is anticipated that the PowerGem+ will most often be installed in an office workspace and the environment will be an important factor in the design. Therefore, by using modern high frequency technology the noise produced is reduced to less than 50dBA.

- True online double conversion
- Digital Signal Processor (DSP) technology
- Intelligent self-diagnostics
- Wide input voltage (110V – 300V)
- Frequency Converter Mode
- True sinewave output
- Multiple communication ports
- ECO Mode operation for energy saving
- Matching battery cabinets
- Intelligent slot for SNMP or internal relay card
- Generator compatible

ENVIRONMENTALLY FRIENDLY ENERGY SAVING

The intelligent microprocessor based control system allows for the very low power consumption offered by the interactive ECO Mode of operation which provides efficiencies as high as 98%.

The PowerGem+ switches instantaneously to online double conversion operation automatically when the mains becomes unstable and fluctuates outside the normal frequency and voltage parameters.

MATCHING EXTERNAL BATTERY CABINETS

For mission critical applications requiring longer runtimes or higher specification batteries, additional matching battery cabinets can be easily added. These have been designed both technically and aesthetically to complement the UPS, forming a combined unit which can be easily located without the need for special site considerations. For even larger battery systems or specialist battery installations, low cost open or clad racks can be provided.

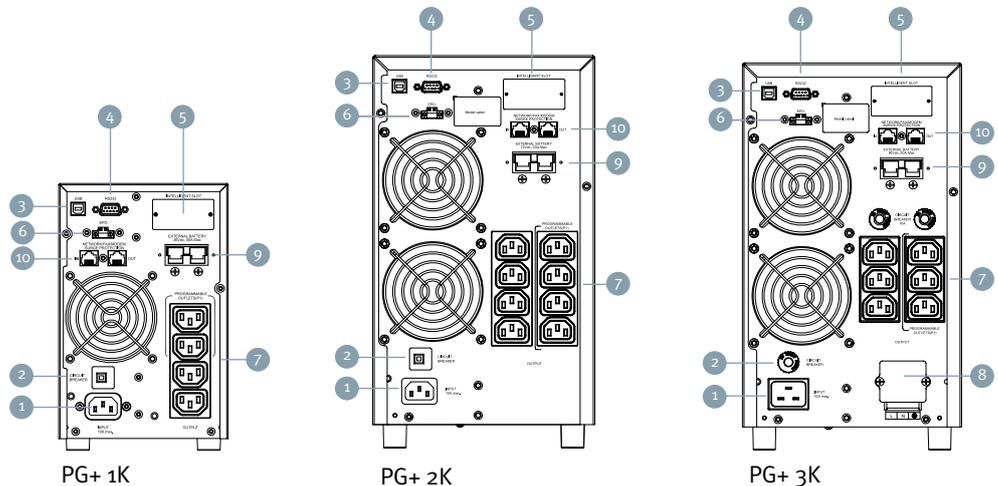


PowerGem+ – Online Double Conversion UPS Technical Specification



MODEL	PG+ 1K	PG+ 2K	PG+ 3K	
Power Rating VA / Watts	1000 / 800	2000 / 1600	3000 / 2400	
INPUT				
Nominal Voltage	200 / 208 / 220 / 230 / 240 Vac			
Voltage Range	110 - 300 Vac at 50% load or 160 - 280 Vac at 100% load			
Frequency Range	40 - 70 Hz			
Power Factor	>0.99 @ 100% load			
OUTPUT				
Nominal Voltage	200 / 208 / 220 / 230 / 240 Vac			
AC Voltage Regulation (BatteryMode)	±1%			
Frequency Range (Synchronised Range)	47 - 53 Hz or 57 - 63 Hz			
Frequency Range (Battery Mode)	50 Hz ±0.25 Hz or 60 Hz ±0.3 Hz			
Crest Factor	3:1			
Harmonic Distortion (Linear Mode)	≤3% THD			
Transfer Time	Zero			
Waveform	Pure Sinewave			
EFFICIENCY				
AC Mode	88%	89%	90%	
Battery Mode	83%	85%	88%	
BATTERY				
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries			
Battery Numbers	2 x Internal	4 x Internal	6 x Internal	
Typical Recharge Time	4 hours recover to 90% capacity			
Charging Current (max.)	Standard Models 1A			
GENERAL				
Operating Humidity	20 - 90% RH @ 0 - 40°C (non-condensing)			
Acoustic Noise Level	<50 dB @ 1 metre			
Management Software	Included			
Standard Model	Dimensions (mm) WxDxH	145 x 282 x 220	145 x 397 x 220	190 x 421 x 318
	Net Weight (kgs)	9.8	17	27.6

- 1 AC input
- 2 Input circuit breaker
- 3 USB communication port
- 4 RS232 communication port
- 5 SNMP intelligent slot (option)
- 6 Emergency power off function connector (EPO)
- 7 Output receptacles
- 8 Output terminal
- 9 External & battery connectors
- 10 Network/Fax/Modem surge protection



PowerOn™ Series

Single Phase Input & Output True Online Double Conversion UPS
1kVA – 3kVA

- » Versatile
- » Hot Swap Batteries
- » Energy Saving

VFI



The BPC PowerOn is a unique range of high density UPS systems that can be installed either on the floor in tower form or in rackmount cabinet configurations powering a wide range of applications.

The PowerOn is intelligent with flexible and easy to configure energy saving options from the front backlit LCD control panel for the ever conscious client trying to keep running costs to a minimum.

The range is equipped with the latest digital signal processor (DSP) technology with versatile features demanded by IT Managers enabling integration into all types of networking environments. More powerful battery chargers can be added so that business continuity can be extended using long battery runtime options.

- » Data Centres
- » Financial Services
- » Healthcare
- » Industrial
- » Telecommunications
- » Mission Critical

PowerOn Features

RACK/TOWER CONFIGURATION

The PowerOn range is extremely versatile and designed to have the flexibility to use as a floor standing tower type UPS or to be integrated into the clients' 19" rack cabinet. Each system is supplied with a mounting kit allowing the user to choose either option of operation.

The enhanced LCD display can be manually positioned and programmed for use as a rackmount or tower unit to suit the mode of operation by simply removing and rotating the display panel.



ADVANCED FUNCTIONAL LCD DISPLAY

The PowerOn DSP controlled UPS provides an intelligent high density system suitable for powering a wide range of devices both simply and accurately.

A precise backlit LCD fully comprehensive display allows all the key parameters, alarms and indications to be shown.

HOT SWAPPABLE BATTERIES

A key advantage of the PowerOn range of UPS is hot swappable batteries as this feature allows the user to replace batteries during operation without interruption to the load.



- True online double conversion
- Digital Signal Processor (DSP) technology
- Wide input voltage (110V – 300V)
- Tower or Rackmount convertible design
- Hot swappable battery design
- Intelligent self-diagnostics
- Pure sinewave output
- Multiple communication ports
- Emergency Power Off (EPO) function
- Long runtime versions – optional large chargers
- Matching battery cabinets
- ECO Mode operation for energy saving
- Frequency Converter Mode

MATCHING BATTERY CABINETS

For mission critical applications requiring longer runtime of higher specification batteries, additional matching battery cabinets can be added. These have been designed both technically and aesthetically to complement the UPS, forming a combined unit which can be easily located without need for special site considerations.



ENVIRONMENTALLY FRIENDLY ENERGY SAVING

The intelligent microprocessor based control system allows for the very low power consumption offered by the interactive ECO Mode which provides efficiencies as high as 98%. PowerOn switches instantaneously to online double conversion operation automatically when the mains becomes unstable and fluctuates outside the normal frequency and voltage parameters.

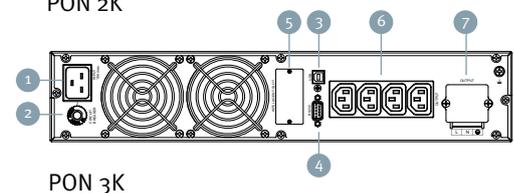
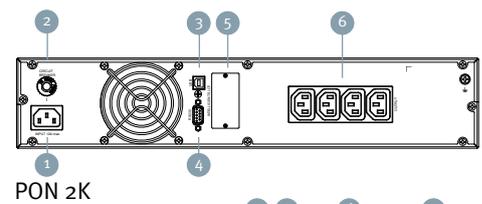
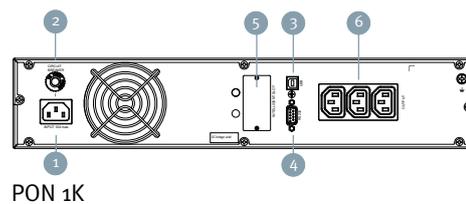
PowerOn

Technical Specification



MODEL	PON 1K (L)		PON 2K (L)		PON 3K (L)		
Power Rating VA / Watts	1000 / 800		2000 / 1600		3000 / 2400		
INPUT							
Nominal Voltage	200 / 208 / 220 / 230 / 240 Vac						
Voltage Range	160 - 280 Vac (load dependent)						
Frequency Range	40 - 70 Hz						
Power Factor	>0.99 @ 100% Load						
OUTPUT							
Nominal Voltage	200 / 208 / 220 / 230 / 240 Vac						
AC Voltage Regulation (Battery Mode)	±1%						
Frequency Range (Synchronised Range)	47 - 53 Hz or 57 - 63 Hz						
Frequency Range (Battery Mode)	50 Hz ±0.25 Hz or 60 Hz ±0.3 Hz						
Crest Factor	3:1						
Harmonic Distortion (Linear Mode)	≤3% THD						
Transfer Time (AC to Battery)	Zero						
Waveform	Pure Sinewave						
EFFICIENCY							
AC Mode	88%		89%		90%		
Battery Mode	83%		87%		88%		
BATTERY							
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries						
Battery Numbers	2 x Internal		4 x Internal		6 x Internal		
Typical Recharge Time	4 hours recover to 90% capacity						
Charging Current (max.)	Standard Models		1A				
	Long Runtime Models		1A / 2A / 4A / 6A				
GENERAL							
Operating Humidity	20 - 90% RH @ 0 - 40°C (non-condensing)						
Acoustic Noise Level	≤50 dB @ 1 metre						
Management Software	Included						
Standard Model	Dimensions (mm) WxDxH	438 x 310 x 88		438 x 410 x 88		438 x 630 x 88	
	Net Weight (kgs)	12		19		29.3	
Long Runtime Model	Dimensions (mm) WxDxH	438 x 310 x 88		438 x 410 x 88		438 x 410 x 88	
	Net Weight (kgs)	9		12		14.2	

- ① AC input
- ② Input circuit breaker
- ③ USB communication port
- ④ RS232 communication port
- ⑤ SNMP intelligent slot (option)
- ⑥ Output receptacles
- ⑦ Output terminal



PowerGem™ Pro Series

Single and Three Phase Input & Single Phase Output
True Online Double Conversion UPS 6kVA – 30kVA

» Sophisticated » Reliable » Intelligent

VFI



The PowerGem Pro is the ultimate in UPS design with a full range of options and accessories to meet the demands of sophisticated network environments, ideally suited for mission critical applications such as vital servers, network and telecommunication equipment.

The PowerGem Professional range uses state-of-the-art technology and components to provide maximum network protection where the load is continuously supplied by the inverter with a filtered and stabilised waveform and frequency to the highest standards.

- » Server Rooms
- » Financial Services
- » Healthcare
- » Industrial
- » Telecommunications

PowerGem Pro Features

ADVANCED FUNCTIONAL LCD DISPLAY

The PowerGem Pro provides all round superior protection but remains easy to install and simple to operate from the front display panel and backlit LCD, showing input and output voltages, frequencies, battery readings and UPS operating status information.



N+X REDUNDANCY

The BPC philosophy is both simple and elegant. The UPS output is connected directly to the user's distribution system, eliminating the vulnerable centralised static switch and control circuits. PowerGem Pro models can be used in simple parallel operation with up to 3 units, allowing scalability for increased power capacity and improved reliability due to the redundancy operation.

MULTIPLE COMMUNICATION OPTIONS

This feature will allow either the USB or RS232 communication port to work with an SNMP simultaneously. Internal slots are provided for remote control and monitoring agents like SNMP and relay cards.

PROGRAMMABLE FREQUENCY CONVERTER

The PowerGem Pro series may be used as a frequency converter. Simple programming through the front LCD panel will allow you to lock the output frequency at 50 Hz or 60 Hz to suit frequency sensitive equipment.

LONG RUNTIME APPLICATIONS

Business continuity applications require long runtimes of several hours or even days. PowerGem Pro 'L' version are available where the internal battery has been replaced with super-efficient larger built-in chargers, giving 4x, 8x, 12x, 20x and 24x faster recharge capability and extended battery autonomy. Advanced battery test facilities are available to detect deteriorating condition and performance.

- True online double conversion
- Digital Signal Processor (DSP) technology
- Intelligent self-diagnostics
- Pure sinewave output
- Multiple communication ports
- Output power factor 0.8, 0.9 and unity options
- ECO Mode operation for energy saving
- Emergency Power Off (EPO) function
- Long runtime versions – optional large chargers
- Matching battery cabinets
- Galvanic Isolation Transformer (optional)
- Intelligent slot for SNMP or internal relay card
- Maintenance Bypass
- Scalable redundancy parallel option
- Frequency Converter Mode
- Generator compatible

MATCHING EXTERNAL BATTERY CABINETS

For mission critical applications requiring longer runtimes or higher specification batteries, additional matching battery cabinets can easily be added. These have been designed both technically and aesthetically to complement the UPS, forming a combined unit which can be easily located without the need for special site considerations. For even larger battery systems or specialist battery installations, lower cost open or cladded racks can be provided.



PowerGem Pro Tower – Online Double Conversion UPS Technical Specification



MODEL	PGPRO 6K (L)	PGPRO 10K (L)	PGPRO 10K (L)	PGPRO 15K (L)	PGPRO 20K (L)	PGPRO 30K (L)
Power Rating kVA / kW	6 / 4.8	10 / 8	10 / 8	15 / 12	20 / 16	30 / 24
INPUT						
Nominal Voltage	208 / 220 / 240 Vac (1Ph + N + PE)		3 x 400 Vac (3Ph + N + PE)			
Voltage Range	110 - 300 Vac @ 50% load 176 - 300 Vac @ 100% load		190 - 520 Vac (3-phase) at 50% load 305 - 478 Vac (3-phase) at 100% load <i>Models can be configured as single phase operation</i>			
Frequency Range	46 - 54 Hz or 56 - 64 Hz					
Power Factor	≥0.99 @ 100% Load					
OUTPUT						
Nominal Voltage	208 / 220 / 230 / 240 Vac					
AC Voltage Regulation (Battery Mode)	±1%					
Frequency Range (Synchronised Range)	46 - 54 Hz or 56 - 64 Hz					
Frequency Range (Battery Mode)	50 Hz ±0.1 Hz or 60 Hz ±0.1 Hz					
Power Factor	0.8 (optional 0.9 and unity)					
Crest Factor	3:1					
Harmonic Distortion (Linear Mode)	≤3% THD		≤2% THD			
Transfer Time	Zero					
Waveform	Pure Sinewave					
EFFICIENCY						
AC Mode	90.5%	90.5%	91%	91.3%		
ECO Mode	96%					
Battery Mode	88%	86%	88%	87%	88%	
BATTERY						
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries					
Battery Numbers (standard)	20	20 pcs (18-20 pcs adjustable)	20 pcs (18-20 pcs adjustable) x2 strings	20 pcs (18-20 pcs adjustable) x3 strings		
Battery Numbers (long runtime)	Depending on capacity of external batteries					
Charging Current (max.) (standard)	1A		2A		4A	
Charging Current (max.) (long runtime)	4A		8A		12A	
GENERAL						
Operating Humidity	0 - 95% (non-condensing)					
Acoustic Noise Level	≤55 dB @ 1 metre	≤58 dB @ 1 metre	≤60 dB @ 1 metre	≤65 dB @ 1 metre		
Management Software	Included					
Standard Model	Dimensions (mm) WxDxH	250 x 592 x 576	250 x 592 x 576	250 x 815 x 826	300 x 815 x 1000	
	Net Weight (kgs)	81	83	164	234	
Long runtime Model	Dimensions (mm) WxDxH	250 x 592 x 576	250 x 592 x 576	250 x 592 x 576	250 x 815 x 826	
	Net Weight (kgs)	25	28	40	64	

PowerGem Pro Rackmount – Online Double Conversion UPS

Technical Specification



MODEL	PGPRO 6KR (L)	PGPRO 10KR (L)	PGPRO 10KR (L)	PGPRO 15KR (L)	PGPRO 20KR (L)
Power Rating kVA / kW	6 / 4.8	10 / 8	10 / 8	15 / 12	20 / 16
INPUT					
Nominal Voltage	208 / 220 / 230 / 240 Vac (1Ph + N + PE)		3 x 400 Vac (3Ph + N + PE)		
Voltage Range	110 - 300 Vac @ 50% load 176 - 300 Vac @ 100% load		190 - 520 Vac (3-phase) at 50% load 305 - 478 Vac (3-phase) at 100% load		
Frequency Range	46 - 54 Hz or 56 - 64 Hz				
Power Factor	≥0.99 @ 100% Load				
OUTPUT					
Nominal Voltage	208 / 220 / 230 / 240 Vac				
AC Voltage Regulation (Battery Mode)	±1%				
Frequency Range (Synchronised Range)	46 - 54 Hz or 56 - 64 Hz				
Frequency Range (Battery Mode)	50 Hz ±0.1 Hz or 60 Hz ±0.1 Hz				
Power Factor	0.8 (optional 0.9 and unity)				
Crest Factor	3:1				
Harmonic Distortion (Linear Mode)	≤3% THD		≤2% THD		
Transfer Time	Zero				
Waveform	Pure Sinewave				
EFFICIENCY					
AC Mode	90.5%		90.5%		91%
ECO Mode	96%				
Battery Mode	88%		86%		88%
BATTERY					
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries				
Battery Numbers (standard)	20		20pcs (18 - 20 pcs adjustable)		20pcs (18 - 20 pcs adjustable) x2 strings
Battery Numbers (long runtime)	Depending on capacity of external battery cabinet				
Charging Current (max.) (standard)	1A			2A	
Charging Current (max.) (long runtime)	4A				
GENERAL					
Operating Humidity	0 - 95% (non-condensing)				
Acoustic Noise Level	≤55 dB @ 1 metre		≤60 dB @ 1 metre		≤65 dB @ 1 metre
Management Software	Included				
Standard Model	Dimensions (mm) WxDxH	UPS: 438 x 580 x 133 Battery Cab: 438 x 530 x 133		UPS: 438 x 668 x 133 Battery Cab: 438 x 530 x 133	UPS: 438 x 668 x 266 Battery Cab: 438 x 530 x 133
	Net Weight (kgs)	UPS: 17 Battery Cab: 57		UPS: 22 Battery Cab: 63	UPS: 45 Battery Cab: 63 x 2 packs
Long runtime Model	Dimensions (mm) WxDxH	UPS: 438 x 580 x 133		UPS: 438 x 668 x 133	UPS: 438 x 668 x 266
	Net Weight (kgs)	17		22	45

Accessories

Suitable for the Single Phase UPS Ranges

PowerGem Xtreme / PowerGem+ / PowerOn / PowerGem Pro

SIMPLE NETWORK MANAGEMENT PROTOCOL (SNMP) MODULES

SNMP cards are used for the management of UPS systems via a computer or local network. With a web based programme built into the SNMP, simply connecting the card to a network via its LAN port allows for easy monitoring of the UPS. SNMP cards can be used not only to monitor UPS parameters, but also allow user controlled testing, email alerts and sending of remote console commands to client systems to initiate automatic shutdowns. SNMP cards can be fitted internally on some UPS models or externally fitted via the UPS RS232 port.



RELAY CARDS

Relay communication cards provide contact closures for the remote monitoring of the UPS system. The dry-port interface card provides a selection of dry-contact relays. The dry-contact signals monitor select parameters of the UPS such as, UPS failure, bypass active, low battery, UPS on and utility failure. The dry-ports will then change their status depending on this alarm.



RAIL KITS

Rail kits are available for all rackmount UPS, a simple kit to ease installation into 19" cabinets and will allow the UPS to be supported without the requirement of a shelf.



EXTERNAL RACKMOUNT MAINTENANCE BYPASS SWITCHES

Suitable for 1kVA – 3kVA models

- Provides continuous power to connected equipment during UPS maintenance
- Easy operation with simple rotary switch and indications
- Adjustable master-slave function
- Large number of sockets for extended usage
- Rack and tower designs to fit into a diverse working environment
- Simple plug-and-play connectivity
- Diverse socket selections: IEC, UK, Schuko and NEMA



Suitable for PowerGem Pro 6kVA & 10kVA models

- Easy operation with simple rotary switch and indications
- 100% make-before-break to provide continuous power to connected equipment during UPS maintenance
- Automatic UPS protection design – auto transfer UPS to bypass when opening the maintenance bypass switch panel
- Easy operation with simple rotary switch
- Terminal block type



PowerPro™ Industrial XA

Single Phase Input & Output True Online Double Conversion UPS

2.2kVA – 4kVA



VFI

- » Industrial
- » Long Runtime
- » Self-contained

The PowerPro Industrial XA Range is built specifically for clients requiring an engineered solution for a plant room environment with options for a long runtime battery autonomy in a self contained lockable cabinet.

The Industrial XA range has a compact modular power unit offering both reliability, simple maintenance and low mean time to repair. The unique internal wired pod is easily adaptable for hardwired cable inputs including steel wired armoured or PIA cables through two top entry gland plates.

Bespoke designs are available for AC or DC earth fault protection, galvanic isolation, surge/lighting suppression, dry port contacts, 24/48/110 AC outputs, remote alarm panels, internal maintenance bypass switches and others.

- » Designed for industrial plant room applications
- » True sinewave & PWM microprocessor controlled technology
- » Up to 97% efficiency
- » System and battery test function
- » Dynamic voltage control allowing wide input (Smart AVR)
- » Larger charger for faster recharge of batteries
- » Ultra fast Changeover Mode to Battery Mode
- » Advanced LCD panel
- » RS232 and dry contacts for communication and remote monitoring
- » Generator compatible
- » Remote monitoring panel (optional)
- » Low mean time to repair (MTTR)

PowerPro Industrial XA Online Double Conversion UPS Technical Specification



MODEL	IND 2200XA	IND 4000XA
Power Rating kVA / Watts	2.2 / 1.35	4 / 3
INPUT		
Nominal Voltage	230 Vac (1Ph + N + PE)	
Voltage Range	184 V - 285 V	
Frequency Range	50 Hz \pm 5%	
Power Factor	0.8	
OUTPUT		
Nominal Voltage	230 Vac (1Ph + N + PE)	
AC Voltage Regulation (Battery Mode)	\pm 3%	
Frequency Range (Synchronised Range)	\pm 1%	
Frequency Range (Battery Mode)	\pm 1%	
Crest Factor	3:1	
Harmonic Distortion (Linear Mode)	\leq 5%	
Transfer Time	\leq 4ms	
Waveform	Sinewave	
EFFICIENCY		
AC Mode	\leq 97%	
BATTERY		
Battery Type	VRLA AGM Sealed Lead Acid Batteries / Nickel Cadmium Batteries / Lithium Ion Batteries	
Battery Numbers	4 to 8 internal depending on runtime	
GENERAL		
Operating Temperature	0° - 40°C	
Operating Humidity	5 - 95% (non-condensing)	
Acoustic Noise	\leq 6 dB @ 1 metre	
Management Software	Included	
IP Rating	IP21 (Higher IP Ratings available on request)	
Dimensions (mm) WxDxH	750 x 250 x 1250	750 x 400 x 1250
Net Weight (kgs)	Dependent on battery configuration	

PowerPro™ Micro Series

Three Phase Input & Output Online Double Conversion UPS
5kVA – 30kVA (Parallelable up to 120kVA)

VFI

» Compact

» Parallelable

» Versatile



In today's very competitive server room/small data centre market, BPC recognises the requirement for a compact and versatile UPS system dedicated to the protection of critical computer applications.

The BPC PowerPro Micro range is a three phase input & output compact UPS, designed as a competitive system for computer applications. Built using state-of-the-art technology with DSP (Digital Signal Processor) microprocessor control to provide maximum reliability to the load with no impact downstream, the PowerPro Micro UPS is a scalable solution providing up to 120kVA system or 90kVA N+1 of power protection.

» **Server Rooms**

» **IT Solutions**

» **Small Datacentres**

» **Telecommunications**

PowerPro Micro Features

COMPACT DESIGN

The PowerPro Micro system offers one of the smallest footprints available on the market, providing an exceptional power density of 130kW/m² at 30kVA capacity in one cabinet, for the ever space conscious IT manager.

PARALLEL READY

The BPC philosophy is both simple and elegant. The UPS is connected directly to the user's distribution system, eliminating the vulnerable centralised static switch and control circuits.

Models can be used in simple parallel operation with up to 4 units, allowing scalability for increased power capacity and improved reliability due to the redundancy operation.



ENVIRONMENTALLY FRIENDLY

The PowerPro Micro UPS has a lesser environmental impact than other systems and supports installations where the power is limited. With an input power factor virtually unity and current distortion up to 2.5%, the UPS has zero impact on the power, whether this is the mains supply or the generator.

Furthermore, the system can be operated in ECO Mode for further energy saving efficiency up to 99%, possibly making this the greenest UPS design available.

OPERATIONAL AVAILABILITY

The PowerPro Micro UPS is designed to operate within a wide input voltage range, up to 50% at half load while still stabilising the output voltage without consuming any battery energy.

Derating the system is also possible to operate at a higher temperature (maximum 50°C) and increased altitude up to 5000 metres.

- Digital Signal Processor (DSP) technology
- Wide input voltage and frequency windows
- Internal Maintenance Bypass Switch
- High input power factor and low input distortion
- Output power factor 0.9
- ECO Mode option
- Separate or common battery
- Programmable battery voltage
- Internal battery
- 3 level intelligent charger
- Powerful charger up to 10A
- Superior overload capability
- Programmable control and monitoring software via USB & RS232 port
- 2x network card slots
- Modbus RS485 communication
- Emergency Power Off (EPO) function
- Temperature compensation option
- Automatic battery test

ENHANCED BATTERY LIFE

Utilising an advanced 3-level intelligent charger with smart charge current adjustment, the PowerPro Micro system is designed to protect and enhance the life expectancy of the battery. Frequent battery testing will diagnose in advance any reduction in battery performance.

INSTALLATION FLEXIBILITY

All PowerPro Micro UPS house high rate 12V 9AH battery strings for backup up to 30 minutes at 5kVA internally. Additionally, matching battery cabinets can be connected easily and effectively with multiple battery strings for longer runtime requirements.

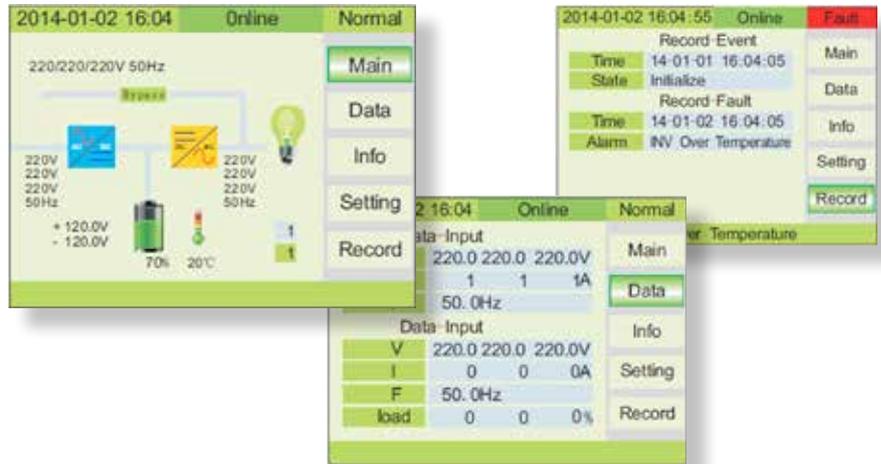
Intelligent charger characteristics allow battery string voltages to be programmed between 16 to 20 blocks to decrease initial investment or simply modify in-service batteries to enhance life expectancy.



PowerPro Micro Features

ADVANCED DISPLAY FUNCTIONS

A precise colour LCD display provides real time status and parameter readings via the DSP controller. These include AC input and output voltage, frequency, battery backup time, programmable output socket status and modes of operation.



Communication

Either:

- 1 RS485
- 2 USB
- 3 RS232

4 Dry Ports

UPS battery low
Mains power failure
Turn off UPS

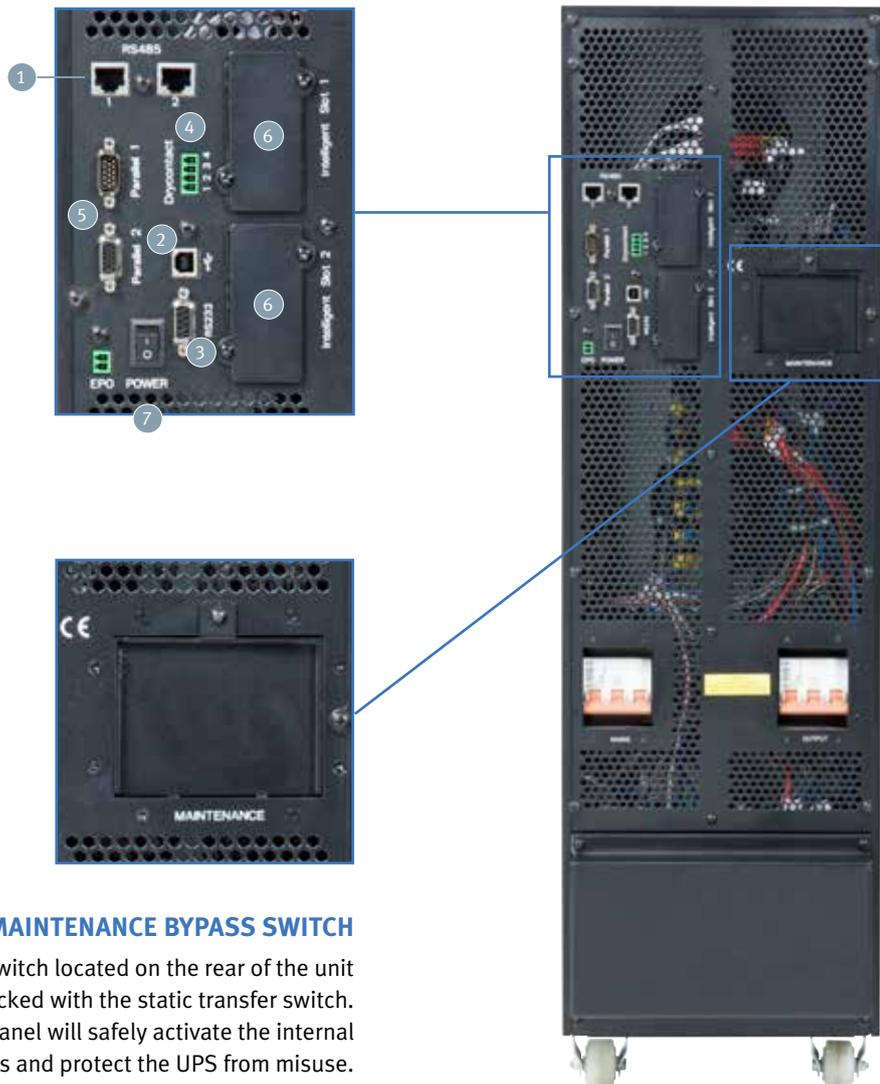
5 Parallel Slots

UPS is parallel ready from installation with 2x parallel slots

6 2x Intelligent Slots

Allowing for:
SNMP Cards
Relay Cards

7 Emergency Power Off (EPO)



MAINTENANCE BYPASS SWITCH

The maintenance bypass switch located on the rear of the unit is internally interlocked with the static transfer switch. Removal of the secure panel will safely activate the internal bypass and protect the UPS from misuse.

PowerPro Micro Technical Specification



MODEL	MICRO 305	MICRO 310	MICRO 315	MICRO 320	MICRO 330
Power Rating kVA / Watts	5 / 4.5	10 / 9	15 / 13	20 / 18	30 / 27
INPUT					
Nominal Voltage	380 / 400 / 415 Vac (3Ph + N + PE)				
Voltage Range	208 V - 478 V				
Frequency Range	45 - 55 Hz at 50 Hz / 54 - 66 Hz at 60 Hz (auto sensing)				
Power Factor	≥0.99 @ 100% load				
OUTPUT					
Nominal Voltage	380 / 400 / 415 Vac (3Ph + N + PE)				
AC Voltage Regulation (Battery Mode)	±1%				
Frequency Range (Synchronised Range)	46 - 54 Hz or 56 - 64 Hz				
Frequency Range (Battery Mode)	50 / 60 Hz ±0.1 Hz				
Power Factor	0.9				
Crest Factor	3:1				
Harmonic Distortion (Linear Mode)	≤2%				
Transfer Time	0 ms				
Waveform	Sinewave				
EFFICIENCY					
AC Mode	≥98%				
BATTERY					
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries				
Battery Numbers	20pcs (max. 40 pcs) internal				
Charging Current (max.)	10A				
GENERAL					
Operating Temperature	0° - 40°C				
Operating Humidity	0 - 95% (non-condensing)				
Acoustic Noise	≤55 dB @ 1 metre				
Protection Degree	IP20				
Management Software	Included				
Dimensions (mm) WxDxH	250 x 828 x 868				
Net Weight (kgs)	115		171		223

PowerPro™ EF300 Series

Three Phase Input & Output Online Transformerless UPS
10kVA – 65kVA (Parallelable up to 5.2mVA)

» Eco-Friendly

» Intelligent

» Space Saving



The PowerPro Eco-Friendly 300 Series UPS is a combination of BPC's advanced Digital Signal Processor (DSP) control technology and a firm pursuit of a green manufacturing philosophy, resulting in a UPS design utilising the latest generation power components and improved conversion circuit topology in order to optimise maximum efficiency.

With minimum space, fewer components and controlled levels of noise pollution, it has a significantly reduced environmental impact. Therefore, with the Eco-Friendly UPS range it is feasible to design a UPS with reduced carbon footprint whilst achieving clean, continuous power for industrial and computing applications.

- » Data Centres
- » Financial services
- » Healthcare
- » Industrial
- » Telecommunications

PowerPro EF Features

MODULAR DSP ARCHITECTURE

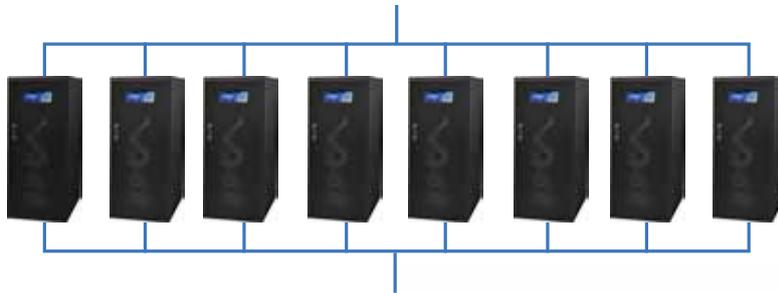
The PowerPro EF300 Series is designed with internal DSP architecture, with separate DSP for Rectifier, Inverter and display. With the use of a CAN Bus System, other modules can be added easily to update or configure the system for multiple use design.

The modular DSP design future proofs your UPS:

- Latest features can be easily upgraded
- Multiple applications for Lifts, Medical, Solar

INCREASED RELIABILITY

Up to 8 PowerPro EF300 units can be connected in parallel, providing a total power capacity of 5.2mVA. The system can also be configured to provide N + 1 redundancy offering the highest reliability. This flexibility allows you to install a system that can grow with your business power requirements.



ADVANCED COMMUNICATIONS

The PowerPro EF 300 Series comes with internal and external SNMP options with full environmental features. The UPS has a specially designed USB memory stick to record the internal history of the system, providing an easy solution for analysing performance and operation. This also provides an easy way to send the information of the UPS faults to the BPC Technical team for analysis if there are any concerns with the UPS operation.

- Four fully programmable dry port relays as standard upgradable to twelve, with over 65 selectable alarms
- Dedicated communication port for service engineer diagnosis and adjustment via laptop or notepad
- Emergency Power Off (EPO) connection for external switching control
- External temperature input monitoring

INTELLIGENT BATTERY MANAGEMENT & PROTECTION

- Internal batteries in standard chassis up to 80kVA
- Deep discharge protection
- Low AC ripple
- Interactive external battery circuit breaker position sensing
- Interactive battery circuit breaker control
- Two stage battery self test, a short test and an intensive test with adjustable test intervals
- Adjustable battery charger system for short and long runtimes
- Battery temperature compensation option



PowerPro EF Features

LOW RUNNING COSTS

The PowerPro EF300 Series operates with low Total Harmonic Distortion (THDi) to less than 5% at full load. The low harmonics help to reduce overheating of input transformers and prevents over sizing input cables and protection devices.

The input power factor of the system runs close to unity at full load, helping to reduce operating costs from utility suppliers charging premium rates.

The low THDi and close to unity power factor mean better matching of generators and reduced costs due to oversizing.

FLEXIBILITY

A fully protected system with the flexibility to meet all demands:

- Multiple operating modes including Online and ECO Mode
- Frequency converter with standard 50 Hz Input, adjustable output to 60 Hz.
- Adjustable 'walk in' time for generator friendly operation
- Dual feed inputs – separately feeding both the Rectifier and bypass lines
- Cold Start Feature – start up with no mains available.
- Input and output transformer options
- All major parameters, such as bypass synchronisation are fully programmable

SPACE SAVING DESIGN

The PowerPro EF300 Series has been designed with class leading power density, maximising valuable floor space in your data centre. The range boasts small footprints of 0.32m² up to 30kVA, 0.44m² up to 160kVA, 0.68m² up to 250kVA and 0.97m² up to 500kVA.

HARSH ENVIRONMENTS

Some applications can have severe surroundings where higher internal protection might be required.

The PowerPro EF300 Series can be offered with IP31 or IP42 options (others on request) to safeguard against unstable environments where the need to counter ingress of harmful particles and liquids is essential.



ADVANCED GRAPHIC DISPLAY

A precise graphic backlit display providing real time status and parameter readings via its own DSP controller. The EF home screen shows all modular elements of the UPS in a clear and precise manner as well as an overview of the system operation.

An easy to navigate control pad allows for a complete and comprehensive overview of measurements, controls and settings with comprehensive event logging up to 192 event memory record system (total 7000 alarms or warnings).

INTELLIGENT MANAGEMENT & MAINTENANCE SYSTEM

The PowerPro EF300 Series has the most advanced built in management and maintenance system (MMS). The MMS has dynamic self-diagnostics and analyses all the internal sub assemblies, providing the engineer with recommendations on what settings need adjustment and calibration.

Fast PCB replacement with all settings and adjustments are easily uploaded via the engineer's laptop. The MMS system built into the UPS reduces the mean time to repair (MTTR) by almost half compared to other UPS systems.

Four service meters track critical areas within the UPS alerting that maintenance is required.



2x 80kVA High Internal Protection IP42 UPS supporting residential lifts in the UK

POWERPRO EF LIFT

The PowerPro EF300 LIFT Series has been specially designed for use with the operation of lift systems.

With new BS 999 regulations now stating that lifts used for an evacuation are required by law to have their own independent back up supply, the EF300 LIFT UPS has become the ideal solution.

The UPS incorporates an intelligent braking system, using IGBT controllers to electronically absorb any regenerative back feed energy from the lift.



POWERPRO EF MEDICAL

The PowerPro EF300 MEDICAL Series has been specially developed for use on MRI Scanners and medical environments.

With specially designed DSP software, the EF MEDICAL provides better operation against MRI loads that have transformers at their input.

The MEDICAL UPS also has better operation against short circuits and provides higher current inrush capacity to prevent problems caused by IGBT saturation.

The system has the capability to accommodate an Internal Galvanic Isolation Transformer up to 60kVA whilst systems up to 650kVA have the Isolation Transformer provided in a matching battery cabinet design.



POWERPRO EF HYBRID

The PowerPro EF300 HYBRID Series senses the availability of solar power, grid power and the battery power for supplying the connected loads, using the most economical and ecological combination of these energy sources. The system primarily works from solar energy to return your investment.

MPPT algorithm provides maximum energy available in the PV panels to the load connected at the output of the solar converter which arranges power redundancy automatically.

The battery bank stores the unused clean energy and protects against power failures.

The different energy flows can be setup according to weather data and/or customer profiles.

As a conventional online UPS, it always offers full protection against any kind of power problem without any internal switching.





PowerPro EF300 Series

Technical Specification

PowerPro EF300 Series

MODEL	EF 310	EF 315	EF 320	EF 330	EF 340	EF 360	EF 380	EF 3100	EF 3120	EF 3160	
Power Rating kVA / kW	10 / 9	15 / 13.5	20 / 18	30 / 27	40 / 36	60 / 54	80 / 72	100 / 90	120 / 108	160 / 144	
INPUT											
Nominal Voltage	380 / 400 / 415 Vac (3Ph + N + PE)										
Voltage Range	±20%										
Frequency	50 Hz / 60 Hz, ±5%										
Power Factor	0.99 @ full load										
Harmonic Distortion*	≤3% @ 100%										
OUTPUT											
Nominal Voltage	380 / 400 / 415 Vac (3Ph + N + PE)										
AC Voltage Regulation	±1%										
Frequency Range	50 Hz or 60 Hz, ±2%										
Power Factor	0.9										
Crest Factor	3:1										
Harmonic Distortion (Linear Load)	≤3% @ 100% load										
Transfer Time	Zero										
Waveform	Sinewave										
EFFICIENCY											
On-Line Mode	Up to 94%										
ECO Mode	Up to 98%										
BATTERY											
Battery Type	VRLA Sealed Lead Acid Maintenance Free Batteries, Nickel Cadmium Batteries										
Battery Numbers	±30 blocks internal							±30 blocks external			
GENERAL											
Operating Temperature	0 - 40°C										
Operating Humidity	90% (non-condensed)										
Acoustic Noise	≤57 dB @ 1 metre	≤62 dB @ 1 metre				≤64 dB @ 1 metre		≤68 dB @ 1 metre			
Protection Degree	IP20 (other on request)										
Management Software	Included										
Standard Model	Dimensions (mm) WxDxH	400 x 815 x 1040					515 x 855 x 1440				
	Net Weight (kg)	87	91	100	173	197	209	220	232	265	
Transformer	Galvanic Isolation Transformer at input and output (optional)										
Comms. Adaptors	SNMP, MODBUS, RS485, Remote Panel										

*Depending on power and input/output conditions



PowerPro EF300 Series Technical Specification

MODEL	EF 3200	EF 3250	EF 3300	EF 3350	EF 3400	EF 3500	EF 3650	
Power Rating kVA / kW	200 / 180	250 / 225	300 / 270	350 / 315	400 / 360	500 / 400	650 / 585	
INPUT								
Nominal Voltage	380 / 400 / 415 Vac (3Ph + N + PE)							
Voltage Range	±20%							
Frequency	50 Hz / 60 Hz selectable, ±5 Hz							
Power Factor	0.99 @ full load							
Harmonic Distortion*	<3% @ 100%							
OUTPUT								
Nominal Voltage	380 / 400 / 415 Vac (3Ph + N + PE)							
AC Voltage Regulation	±1%							
Frequency Range	50 Hz / 60 Hz, ±2%							
Power Factor	0.9			0.8			0.9	
Crest Factor	3:1							
Harmonic Distortion (Linear Load)	<3% @ 100% load							
Transfer Time	Zero							
Waveform	Sinewave							
EFFICIENCY								
On-Line Mode	Up to 94%						Up to 95%	
ECO Mode	Up to 98%							
BATTERY								
Battery Type	VRLA Sealed Lead Acid Maintenance Free Batteries, Nickel Cadmium Batteries, Gel Batteries							
Battery Numbers	±30 blocks external							
GENERAL								
Operating Temperature	0 - 40°C							
Operating Humidity	90% (non-condensed)							
Acoustic Noise	<68 dB @ 1 metre		<72 dB @ 1 metre			<73 dB @ 1 metre		
Protection Degree	IP20 (other on request)							
Management Software	Included							
Standard Model	Dimensions (mm) WxDxH	880 x 775 x 1900		1250 x 775 x 1900		1250 x 840 x 1900		1500 x 1020 x 1900
	Net Weight (kg)	482	550	638	638	737	780	925
Transformer	Galvanic Isolation Transformer at input and output (optional)							
Comms. Adaptors	SNMP, MODBUS, RS485, Remote Panel							

*Depending on power and input/output conditions

PowerTower™ Green Series

Online Double Conversion Modular UPS

6kVA – 1200kVA

VFI

» Modular Design » Scalable » Pay as you grow



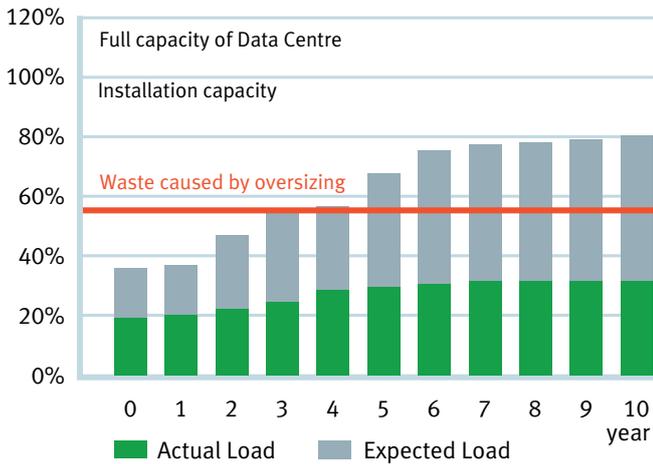
The BPC PowerTower Green modular UPS covers 6kVA – 1200kVA capacity in a single frame, with the latest advanced digital signal processor (DSP) technology and three level inverter design ensures the highest level of efficiency and reliability can be attained for the whole product range.

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

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 99.999% 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 leading 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.

Vertical Scalability
by adding power modules up to 1200kVA

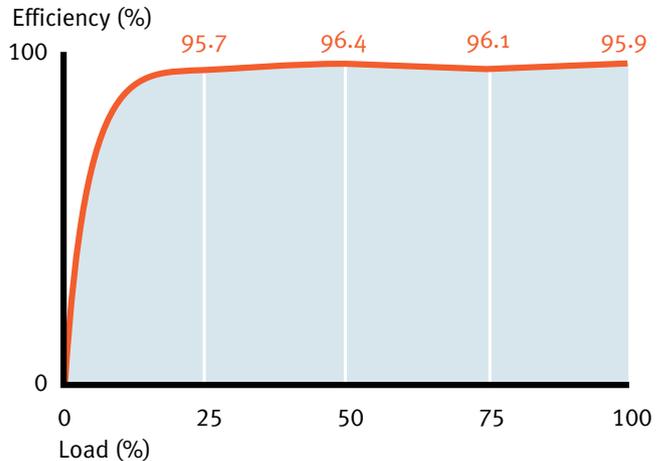


Horizontal Scalability

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

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.



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.

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 $\geq 96\%$**
- **DC – AC efficiency $\geq 98\%$**
- **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
- RS232 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
	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				

PowerTower™ Green RITo6 Series

Rack Independent Online Double Conversion UPS

6kVA – 36kVA

The PowerTower Green RITo6 series is a rack independent modular UPS of low and medium power developed by BPC. With a flexible structure, it can be embedded into any standard 19 inch cabinet and can be configured to operate in any power requirement.

Ranging from 6-36kVA using 6kVA modules in a functional rack-independent solution, the PowerTower Green RITo6 series is ideal for the space conscious enterprise networking manager.

PTG RIT 12/6

12kVA – 2 module rack 19" (w) x 600mm (d) x 3U (h)



PTG RIT 24/6

24kVA – 4 module rack 19" (w) x 600mm (d) x 5U (h)



PTG RIT 36/6

36kVA – 6 module rack 19" (w) x 600mm (d) x 7U (h)



- N+X module-level redundancy UPS System
- 1/1, 3/1, 1/3 and 3/3 configuration via display
- Multi-level decentralized control technology and Master-slave synchronization in sequence control eliminating system failure bottleneck
- Each module equally shares the input and output current automatically, and all UPS modules share the batteries
- Battery discharge management, auto-transfer between floating and equal charging, temperature compensation
- C/S-Oriented Architecture Software available to monitor multiple UPS up to 600 sets
- B/S-Oriented Architecture available to check via internet browser
- Multiple User options RS232, RS485, dry contacts, TCP/IP Adapter for local and remote communication
- Optional input/output transformer
- Optional Battery IPDS (Intelligent Power Distribution System)

RIT Monitoring Module

Display, Monitoring, Communication and Alarm Management



PTG6M Power Module

Rectifier, Inverter, Battery Charger, Control



PowerTower Green RITo6 Technical Specification

MODEL	PTGRIT 12/6	PTGRIT 24/6	PTGRIT 36/6
Maximum Power kVA	12kVA	24kVA	36kVA
Compatible Power Module	PTG6M		
INPUT			
Nominal Voltage	(1PH + N + E) 380V/220V ±25%		(1PH + N + E) or (3PH + N + E) 380V/220V ±25%, 400V/230V ±25%, 415V/240V ±25%
Frequency Range	50Hz ±10%, 60Hz ±10%		
Power Factor	≥0.99		
OUTPUT			
Nominal Voltage	(1PH + N + E) 220, 230, 240Vac		(1PH + N + E) or (3PH + N + E) 380/220Vac 400/230Vac 415/240Vac
AC Voltage Regulation	±1%		
Power Factor	0.9		
Crest Factor	3:1		
Harmonic Distortion (Linear Load)	≤1%		
Transfer Time	Zero		
EFFICIENCY			
AC Mode	≥95%		
Battery Mode	≥98%		
BATTERY			
Rated DC Input Voltage	±240Vdc		
Charging Ability	Within 10 hours (2 hours backup)		
GENERAL			
Display	LCD/LED Screen		
Communication	RS232, RS485, 2 dry contact, TCP/IP adaptor		
Ambient Temperature	-25°C ~ 60°C		
Operating Temperature	-5°C ~ 40°C		
Operating Humidity	≤95% (non-condensed)		
Dimensions (mm) WxDxH	480 x 600 x 133 (3U)	480 x 600 x 222 (5U)	480 x 600 x 311 (7U)
Net Weight (kgs)	12	16	20
MODEL	PTG6M		
Capacity kVA/kW	6kVA/5.4kW		
Input/Output Mode	1/1, 3/1, 1/3, 3/3 (Ph + N + E)		
Input PF	≥0.99		
THDI	≥3%		
Overload Ability	125% for 10 min, 150% for 1 min		
Max. Charging Power	1.5kW		
Max. Heat Dissipation	338W		
Dimensions (mm) WxDxH	219 x 487 x 83		
Net Weight (kgs)	7.5		

PowerTower™ Green RIT25 Series

Rack Independent Online Double Conversion UPS

25kVA – 200kVA

The PowerTower Green RIT25 Series is a rack independent UPS system specially designed for independent rack solutions. The modular UPS design includes a base unit, sub module frame and power modules that can be installed into any suitable 19" rack cabinet.

Starting at 25kVA up to 200kVA, this solution is easy to integrate into a small or medium size computer room. The PowerTower Green RIT25 allows full power integration of a full UPS into any hot-cold aisle data centre design. With just a few modules, you are able to build or extend the UPS to meet the power needs of your business.



With a base unit power of 100kVA or 200kVA, extending your power could not be simpler. Easily multiplying the BPC high performance 25kVA modules to your need, not getting limited to single phase or three phase designs.

BASE UNITS

- Input/Output cable entries
- Maintenance By-Pass switch
- System monitoring (placed at eye level)
- Input/output 1/1, 3/1, 1/3 and 3/3
- 380/220VAC, 400/230VAC, 415/240VAC, 50/60Hz
- SNMP interfacing
- Fits into any 19" frame

PTG RIT/200 base unit

- STS static switch 200kVA
- Maximum size supported 200kVA/180kW
- Height Base Unit is 16U



PTG RIT/100 base unit

- STS static switch 100kVA
- Maximum size supported 100kVA/90kW
- Height Base Unit is 9U



SUB MODULE FRAME

PTG RIT/100F sub module frame

- Fits up to 4 x 25kVA/22,5kW UPS modules
- Maximum size 100kVA per CM-100F
- Maximum 1 x RIT/100F with RIT/100 base unit
- Maximum 2 x RIT/100F with RIT/200 base unit
- Fits into any 19" frame
- Sub module frame height 12U total



PTG RIT/50F sub module frame

- Fits up to 2 x 25kVA/22,5kW UPS modules
- Maximum size 50kVA per CM/A50F
- Maximum 1 x RIT/50F with RIT/100 base unit
- Fits into any 19" frame
- Sub module frame height 6U total



UPS POWER MODULE

PTG25M UPS module

- 25kVA/22,5kW UPS modules
- Maximum 8 x 25kVA UPS modules per Rack-RIT/200 base unit
- Single or three phase input/output
- 380/220VAC, 400/230VAC, 415/240VAC, 50/60Hz



PowerTower Green RIT25 Technical Specification

MODEL	PTGRIT 100/25	PTGRIT 200/25	
Maximum Power Rating kVA	100kVA	200kVA	
Compatible Power Module	PTG25M		
INPUT			
Nominal Voltage	380V / 220V, 400V / 230V, 415V / 240V (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	VRLAAGM 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		
Base Unit	Dimensions (mm) WxDxH	482 x 750 x 400	482 x 710 x 711
	Weight (kgs)	29	40
Sub Module Frame	Dimensions (mm) WxDxH	482 x 650 x 400	482 x 650 x 533
MODEL			
PTG25M			
Capacity kVA/kW	25 kVA/22.5kW		
Input/Output Mode	1/1, 3/1, 1/3, 3/3 (Ph + N + E)		
Input PF	≥0.99		
THDI	≥3%		
Overload Ability	125% for 10 min, 150% for 1 min		
Max. Charging Power	6kW		
Max. Heat Dissipation	1187W		
Dimensions (mm) WxDxH	482 x 465 x 133		
Net Weight (kgs)	20		

Hot Swappable Modular Battery Solutions

The BPC Rack Independent (BRI) Battery System is a hot swappable battery containment solution that incorporates the SAFEGUARD battery monitoring system.

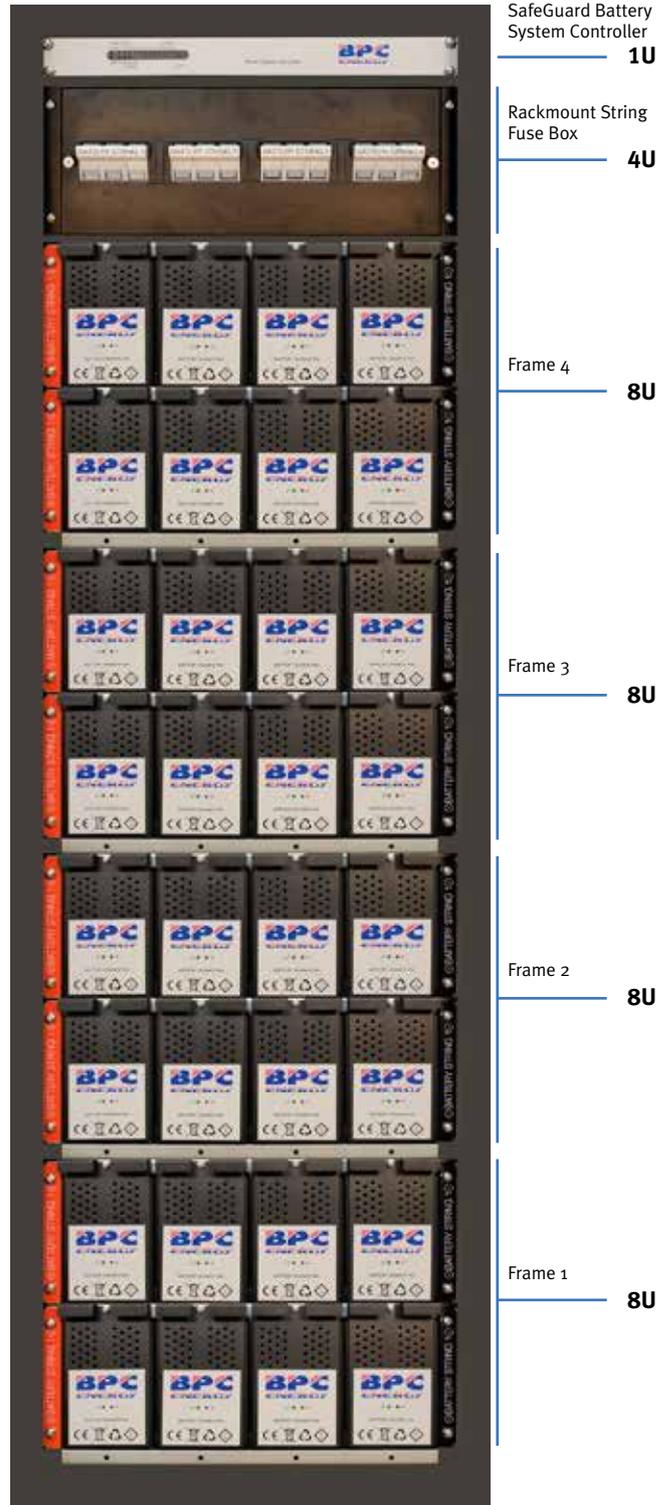
Designed to work with the PowerTower Modular solutions the BRI System provides the complete modular package. The system can be installed into any 19" rack that is 1000mm deep and suitable for the weight of the battery.

Rack Independent UPS solutions can also be integrated with modular battery solutions. Typically suitable for applications for 200kVA for 10 minutes autonomy or combinations of more autonomy but less power capacity.

BATTERY RACK INDEPENDENT FRAME



MODEL	PTG BRI-40F	PTG BRI-64F
Battery Type	VRLA Sealed Lead Acid Battery	
Included Battery Trays	4 trays x 10 blocks each	8 trays x 8 blocks each
Total number of Battery Blocks	40	64
Battery Voltage	± 240VDC	± 384VDC
Battery Mounting	19" Battery Tray	
Expected Battery Life	5 years	
Battery Volt-Amp-Hour Capacity	4320	6912
Maximum (HxWxD) per Frame	4U x 19" x 820mm	8U x 19" x 820mm
Cabinet Height	42U (max. 8 frames)	42U (max. 4 frames)
Cabinet Dimensions (mm)	2000 (h) x 600 (w) x 1000 (d)	2000 (h) x 600 (w) x 1000 (d)
Net Weight (with batts.)	105kgs	210kgs
Colour	black	
Approvals	CE, EN/IEC 62040-1-1, EN/IEC 62040-2, EN/IEC 62040-3, Eurobat General Purpose, UL 1778	



Battery cabinet with open door showing 4 frames

SAFEGUARD BATTERY SYSTEM CONTROLLER



The BPC BATTERY SAFEGUARD Monitoring System is key to guarding your battery to ensure that when required the battery is able to provide the necessary support to your UPS. Continuous monitoring of Voltage and Temperature provides immediate alarms to show of any existing issues within the system.

The SAFEGUARD voltage monitoring is based on identifying if there is any imbalance between the 12VDC battery blocks as well as monitoring the battery cabinet temperature in three positions within the cabinet. The system then provides alarms and visual indications that the system is outside its optimum voltage or temperature range.

The SAFEGUARD Monitor records all active alarms that are produced by the central part of the system, the BMS Controller making sure active alarms are safely logged every 15 minutes into the historical log. The historical LOG is large enough for 18 months data and work on the basis "first in first out". During yearly preventative maintenance the historical LOG will be exported and analysed by the maintenance engineer.

- Dimensions: 19" housing, 1U x 300mm depth
- Connects to sensors of maximum 8 strings
- Stores up to 18 months of battery information

RACKMOUNT STRING FUSE BOX (2 STRING OR 4 STRING)



- Dimensions: 19" (w) x 150mm (d) x 4U (h)
- Cable between UPS and fuse box based on side by side installation

LARGER BATTERY SOLUTIONS

For applications requiring much longer backup time or the UPS capacity exceeds the normal data centre room requirements. The standby battery system might be physically too large or just very heavy for installation inside the data centre, in this case an alternative arrangement has to be found. BPC Energy designs and manufactures its own PowerStor™ battery range and, in addition to hot swappable long life battery modules, we also have a versatile range of lead acid batteries with suitable AGM and GEL sealed technology for both 12 year and 15 year design life batteries.

The wide choice of capacity ratings can be provided with matching UPS rackmount frames, open steel battery stands, enclosed cabinets, separate battery room design and even outdoor solutions to suit every possible environment.



LITHIUM BATTERY SOLUTIONS

In certain applications where space is restricted, and a huge density power storage is required in perhaps a hostile environment with high temperature variations, a more advanced battery solution might be a better solution.

Lithium technology is now becoming well proven and understood for powering larger applications. BPC Energy has a 48 volt rackmount Lithium Ion Module which is developed for energy storage and standby applications.

When considering total cost of ownership these advanced battery solutions are becoming very commercially attractive, offering smaller volume and light weight installations with excellent cycling characteristics, plus the ability to operate at high ambient temperatures might be more suitable for harsh environments.

IT managers will also be relieved that Lithium batteries can be recharged much faster than conventional lead acid batteries returning the UPS system back to full protection in a much shorter time.



96kWh Lithium Battery

PowerPro™ EL Ranges

Single & Three Phase Options

EL100XA / EL100 / EL200 / EL300DSP / CBU

» EN50171

» Lighting

» Reliable



The PowerPro EL Ranges are Static Inverter Systems designed specifically for emergency lighting applications according to European BS EN50171 specification.

A highly versatile range, not only providing capacity up to 160kVA but also a comprehensive bespoke range of AC/DC Central Battery Units with nominally 24V, 48V, 50V and 110V options, allowing BPC to provide an all-inclusive selection of reliable and cost effective products to meet the most challenging of lighting applications.

- » Escape route lighting
- » Open area lighting
- » High risk task area lighting



PowerPro EL Range & Features

EL100XA SERIES – 1/1

A compact series of single phase input & output Static Inverters ranging from 500VA to 3kVA.

EL100 SERIES – 1/1

High performance single phase input & output Static Inverters ranging from 4kVA to 12kVA.



EL100XA Features

- True sinewave & PWM microprocessor controlled technology
- System and battery test function
- DC short circuit protection
- Recharge batteries up to 80% within 12 hours
- Fast changeover to Battery Mode
- Built-in distribution panel (6x standard)
- LCD panel providing accurate detailed information about load, batteries, system diagnostics & audible alarm
- RS232 and dry contacts for communication and remote monitoring
- Internal battery compartment
- Reduced mean time to repair (MTTR) due to modular design

EL200 SERIES – 3/1

High performance three phase input & single phase output Static Inverters ranging from 10kVA to 20kVA.

EL300DSP SERIES – 3/3

High performance three phase input & output Static Inverters ranging from 10kVA to 160kVA.



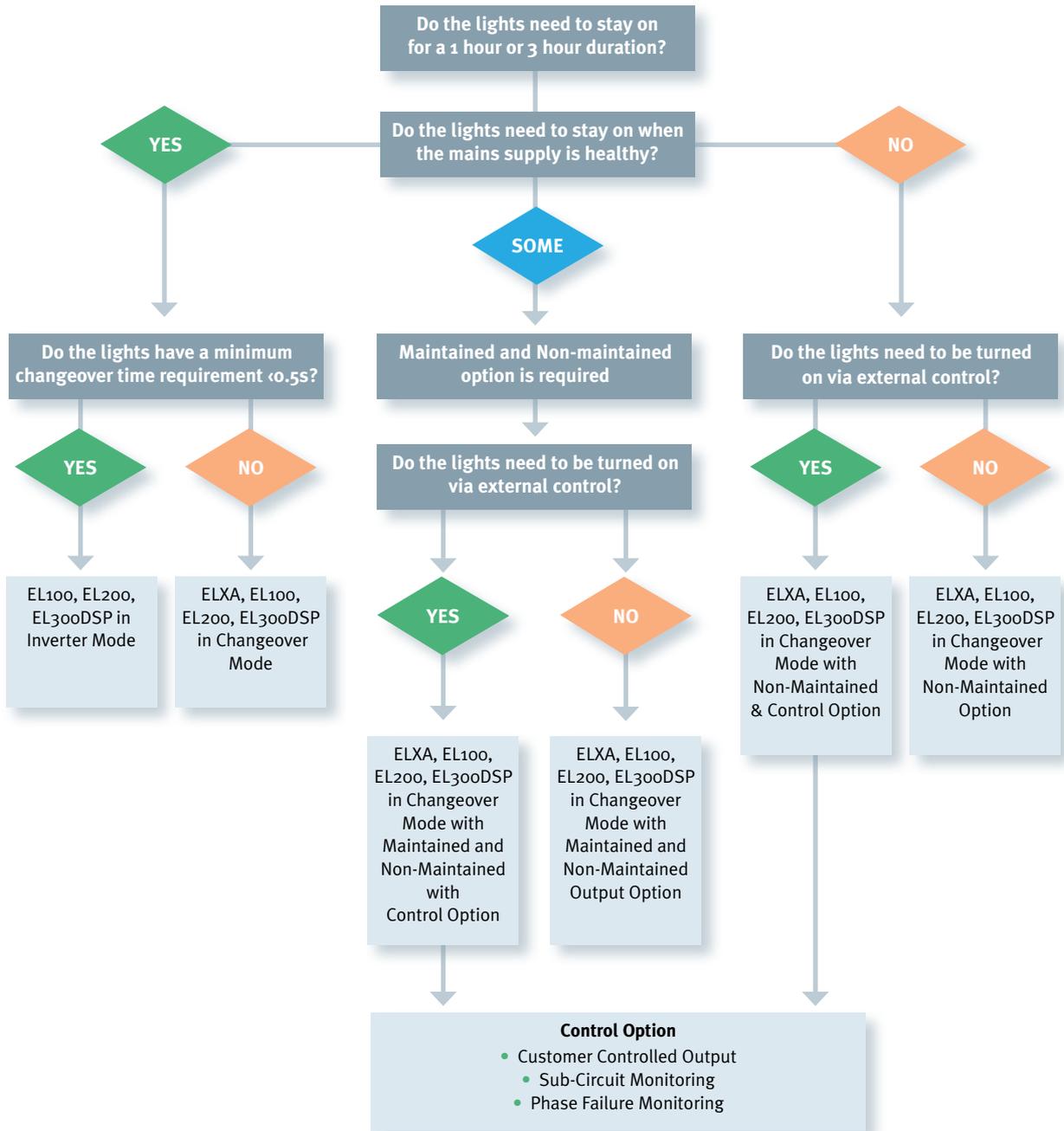
EL100 / EL200 / EL300DSP Features

- True sinewave & PWM microprocessor controlled technology
- Recharge batteries up to 80% within 12 hours
- FAR Controls including 48 Vdc supply for Fire Alarm Panel
- Selectable Non-Maintained / Maintained Mode with external Control (if external contactor fitted)
- External phase failure connection (if external contactor fitted)
- External Test Facility included
- Unique inverter design to suit high inrush lighting loads
- User selectable Inverter or Changeover Mode
- LCD panel providing accurate detailed information about load, batteries and inverter with advanced diagnostics
- RS232 and dry contacts for communication and remote monitoring



PowerPro EL Considerations

Choosing the right Static Inverter to support your Emergency Lighting System will depend on a number of key factors; it is key to ensure the right system is provided for the right type of installation and this can depend on a variety of considerations. Below is a quick guide to understanding your requirements.

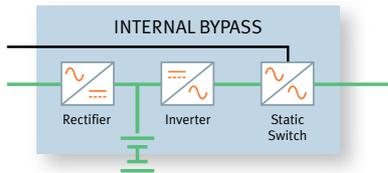


PowerPro EL System Operation Descriptions

With multiple ways to control lights within an application, the below descriptions and drawings show the various ways the lighting load may be controlled.

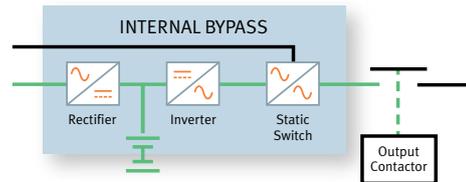
MAINTAINED OUTPUT

Static Inverter provides continuous power to the emergency luminaires during normal operation and during power failure.



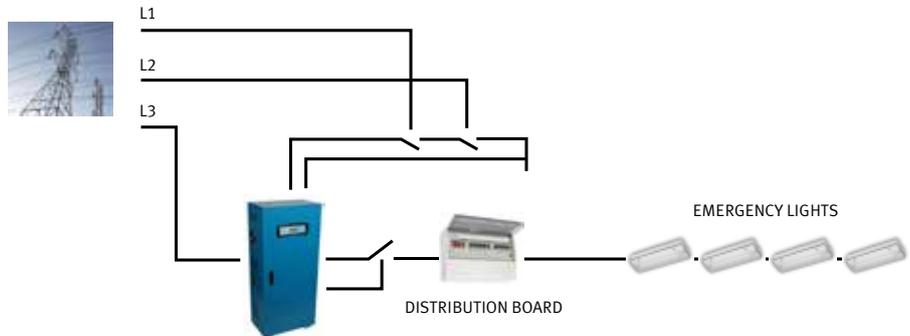
NON-MAINTAINED OUTPUT

Static Inverter output and emergency luminaires are off during normal operation. During power failure the Static Inverter output is activated and the luminaires turn on.



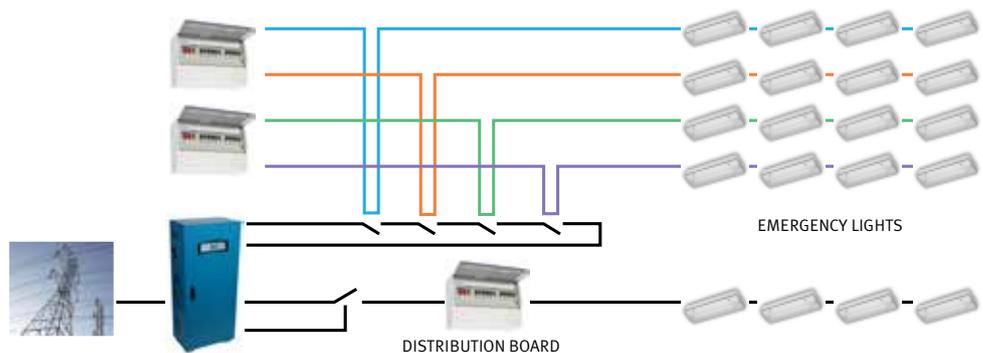
PHASE FAILURE MONITORING

- During normal operation emergency lights non-maintained
- Emergency lights operate during mains failure
- Emergency lights operate if any other incoming phase fails



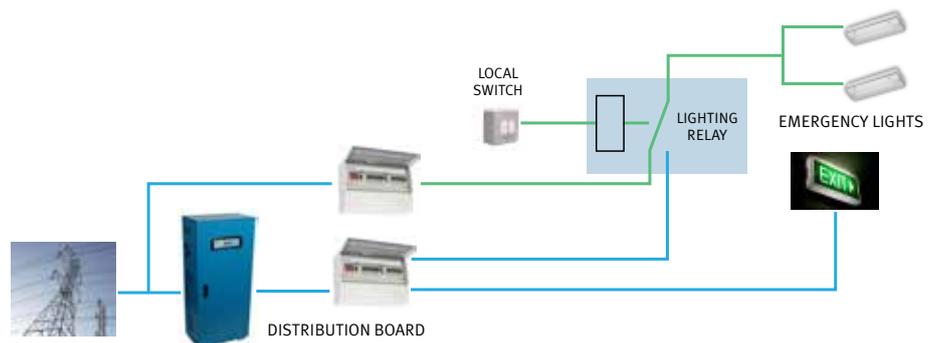
SUB-CIRCUIT MONITORING

- During normal operation emergency lights non-maintained
- Emergency lights operate during mains failure
- Emergency lights operate if any sub-circuit breaker on non-emergency lighting trips



CUSTOMER CONTROLLED OUTPUT

- During normal operation emergency lights switch maintained
- Emergency lights operate during mains failure
- Some lighting circuits left as maintained
- Emergency lights operate if local switch is OFF during mains failure





PowerPro EL100 XA Single Phase Input & Output Static Inverter

Technical Specification

MODEL	EL 1005XA	EL 1012XA	EL 1030XA
Power Rating VA / Watts	500 / 400	1250 / 1000	3000 / 2400
INPUT			
Nominal Voltage	230 Vac (1Ph + N + PE)		
Voltage Range	184 V – 285 V		
Frequency Range	50 Hz ±5%		
OUTPUT			
Nominal Voltage	230 Vac		
AC Voltage Regulation (Battery Mode)	±3%		
Frequency Range (Battery Mode)	±1%		
Power Factor	0.8		
Crest Factor	3:1		
Harmonic Distortion (Linear Load)	≤5%		
Transfer Time	0.5secs		
Waveform	Sinewave		
Load Circuits	6		
Overload	120% Continuous		
Mode Operation	Changeover		
Maintained / Non-Maintained	Maintained (standard) / Non-Maintained (optional)		
BATTERY			
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries / Nickel Cadmium Batteries / Planté Batteries		
Internal / External	1 or 3 hour internal		
End of Life to En50171	Included		
Charge Battery to 80% within 12 hours	Included		
Deep Discharge Protection	Included		
DC Earth Leakage	Optional		
LIGHTING CONTROL INTERFACE			
External Mains Fail Test Connection	Optional		
Non-Maintained Mode Connection**	Optional		
FAR Connection **	Optional		
External Phase Fail Connection **	Optional		
24 Vdc Supply for External Contactor	Optional		
KNX Interface	Optional		
Volt Free Contacts	3		
GENERAL			
Operating Temperature	0°C - 40°C / <1000m above sea level		
Operating Humidity	5 - 95% non-condensing		
Acoustic Noise	≤6 dB @ 1metre		
Protection Degree	IP21		
Dimensions (mm) WxDxH (Excluding Batteries)	750 x 250 x 850	750 x 250 x 1250	750 x 400 x 1250
Net Weight (kgs)	Dependent on battery configuration		

**only applicable if Non-Maintained Option fitted

PowerPro EL100 Single Phase Input & Output Static Inverter Technical Specification



MODEL	EL 104	EL 105	EL 106	EL 108	EL 110	EL 112
Power Rating kVA / kW	4 / 2.8	5 / 3.5	6 / 4.2	8 / 5.6	10 / 7	12.5 / 8.75
INPUT						
Nominal Voltage	230 Vac (1Ph + N + PE)					
Voltage Range	±15%					
Frequency Range	50 Hz ±5%					
OUTPUT						
Nominal Voltage	230 Vac					
AC Voltage Regulation	±1%					
Frequency Range	±1%					
Power Factor	0.7					
Crest Factor	3:1					
Harmonic Distortion (Linear Load)	≤3%					
Transfer Time	≤0.5secs					
Waveform	Sinewave					
Load Circuits	1					
Overload	120% continuous, 120 - 150% for 10mins, 150 - 180% for 1min					
Mode Operation	Changeover or Inverter selectable					
Maintained / Non-Maintained	Maintained (standard) / Non-Maintained (optional)					
BATTERY						
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries / Nickel Cadmium Batteries / Planté Batteries					
Internal / External	1 or 3 hour external					
End of Life to En50171	Included					
Charge Battery to 80% within 12 hours	Included					
Deep Discharge Protection	Included					
DC Earth Leakage	Optional					
LIGHTING CONTROL INTERFACE						
External Mains Fail Test Connection	Included					
Non-Maintained Mode Connection**	Included					
FAR Connection **	Included					
External Phase Fail Connection **	Included					
24 Vdc Supply for External Contactor	Included					
KNX Interface	Optional					
Volt Free Contacts	2					
GENERAL						
Operating Temperature	0°C - 40°C / ≤1000m above sea level					
Operating Humidity	10 - 90% non-condensing					
Acoustic Noise	≤56 dB @ 1 metre					
Protection Degree	IP41					
Dimensions (mm) WxDxH (Excluding Batteries)	570 x 370 x 1210					
Net Weight (kgs) (Excluding Batteries)	85	95	110	125	150	155

**only applicable if Non-Maintained Option fitted



PowerPro EL200 Three Phase Input & Single Phase Output Static Inverter

Technical Specification

MODEL	EL 210	EL 215	EL 220
Power Rating kVA / kW	10 / 7	15 / 10.5	20 / 14
INPUT			
Nominal Voltage	400 Vac (3Ph + N + PE)		
Voltage Range	±15%		
Frequency Range	50 Hz ±5%		
OUTPUT			
Nominal Voltage	230 Vac (1Ph + N + PE)		
AC Voltage Regulation	±1%		
Frequency Range	±1%		
Power Factor	0.7		
Crest Factor	3:1		
Harmonic Distortion (Linear Load)	<3%		
Transfer Time	<0.5secs		
Waveform	Sinewave		
Load Circuits	1		
Overload	120% continuous, 120 - 150% for 10mins, 150 - 180% for 1min		
Mode Operation	Changeover or Inverter selectable		
Maintained / Non-Maintained	Maintained (standard) / Non-Maintained (optional)		
BATTERY			
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries / Nickel Cadmium Batteries / Planté Batteries		
Internal / External	1 or 3 hour external		
End of Life to En50171	Included		
Charge Battery to 80% within 12 hours	Included		
Deep Discharge Protection	Included		
DC Earth Leakage	Optional		
LIGHTING CONTROL INTERFACE			
External Mains Fail Test Connection	Included		
Non-Maintained Mode Connection**	Included		
FAR Connection **	Included		
External Phase Fail Connection **	Included		
24 Vdc Supply for External Contactor	Included		
KNX Interface	Optional		
Volt Free Contacts	2		
GENERAL			
Operating Temperature	0°C - 40°C / <1000m above sea level		
Operating Humidity	10 - 90% non-condensing		
Acoustic Noise	<60 dB @ 1 metre		
Protection Degree	IP41		
Dimensions (mm) WxDxH (Excluding Batteries)	545 x 730 x 1250		
Net Weight (kgs) (Excluding Batteries)	250		

**only applicable if Non-Maintained option fitted



PowerPro EL300DSP Three Phase Input & Output Static Inverter Technical Specification

MODEL	EL310DSP	EL320DSP	EL330DSP	EL340DSP	EL360DSP	EL380DSP	EL3100DSP	EL3120DSP	EL3160DSP	
Power Rating kVA / kW	10 / 9	20 / 18	30 / 27	40 / 36	60 / 54	80 / 72	100 / 90	120 / 108	160 / 144	
INPUT										
Nominal Voltage	380/400/415 Vac (3Ph + N + PE)									
Voltage Range	±15%									
Power Factor	0.99 @ full load									
Harmonic Distortion	<5% @ 100% load									
Frequency Range	50 Hz ±5%									
OUTPUT										
Nominal Voltage	230 / 400 Vac (3Ph + N + PE)									
AC Voltage Regulation	±2%									
Frequency Range	±1%									
Power Factor	0.9									
Crest Factor	3:1									
Harmonic Distortion (Linear Load)	<3%									
Transfer Time	<0.5secs									
Waveform	Sinewave									
Load Circuits	1									
Overload	120% continuous, 120 - 150% for 10mins, 150 - 180% for 1min									
Mode Operation	Changeover or Inverter selectable									
Maintained / Non-Maintained	Maintained (standard) / Non-Maintained (optional)									
BATTERY										
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries / Nickel Cadmium Batteries / Planté Batteries									
Internal / External	1 or 3 hour external									
End of Life to En50171	Included									
Charge Battery to 80% within 12 hours	Included									
Deep Discharge Protection	Included									
DC Earth Leakage	Optional									
LIGHTING CONTROL INTERFACE										
External Mains Fail Test Connection	Included									
Non-Maintained Mode Connection**	Included									
FAR Connection **	Included									
External Phase Fail Connection **	Included									
24 Vdc Supply for External Contactor	Included									
KNX Interface	Optional									
Volt Free Contacts	9									
GENERAL										
Operating Temperature	0°C - 40°C / <1000m above sea level									
Operating Humidity	10 - 90% non-condensing									
Acoustic Noise	<62 dB @ 1metre			<64 dB @ 1metre			<68 dB @ 1metre			
Protection Degree	IP41									
Dimensions (mm) WxDxH (Excluding Batteries)	400 x 815 x 1040			515 x 855 x 1440					880 x 775 x 1900	
Net Weight (kgs) (Excluding Batteries)	91	100	173	197	209	220	232	265	482	

**only applicable if Non-Maintained option fitted

PowerPro EL Range Options / Accessories

- **Remote Alarm Panel** – External panel for monitoring the Static Inverter
- **Output Distribution** – Internal distribution of the lighting circuits, standard in EL100XA & EL100, multiple outputs are optional
- **Maintenance Bypass Panel** – to provide flexibility during maintenance, service and/or repairs to the equipment. The bypass can ensure that the system is isolated from the critical load whilst work can be carried out.
- **Phase Failure Monitoring** – Factory fitted relays to ensure that the system monitors all three phases. Failure of any phase activates the emergency lights
- **Sub-Circuit Monitoring** – Factory fitted relays monitor external lighting circuits, if any of the external circuits fail the emergency lights are activated
- **Lighting Control Interface** – Allows communication via a node/module to the testing and monitoring systems
- **Fire Alarm Monitoring** – An alarm condition from the fire alarm panel will activate the emergency lights
- **Night-Watchman Switch** – Enables switching of the emergency lights from a remote location, fail safe in an emergency condition
- **Light Switch Control Relay** – Enables individual circuits to be controlled externally, fail safe in an emergency condition
- **Timer Control** – Solar dials or 24hr timers can be used to activate the non-maintained contactor
- **Earth Fault Alarm** – Monitoring of battery positive and negative for earth leakage
- **Plinth** – For sites that are using SWA cables, a plinth may be required to raise the unit off the floor and allow the cables to be easily installed.



15x Static Inverters and UPS Systems at the National Velodrome Stadium, Olympic Village



Central Battery Units Bespoke DC Systems – AC/DC

All BPC Central Battery Units (CBU) are bespoke designs with a range of standard features and benefits providing a robust solution to meet specific customer requirements, supplied in wall mounted and free standing cabinets with options for high ingress protection.

BATTERY

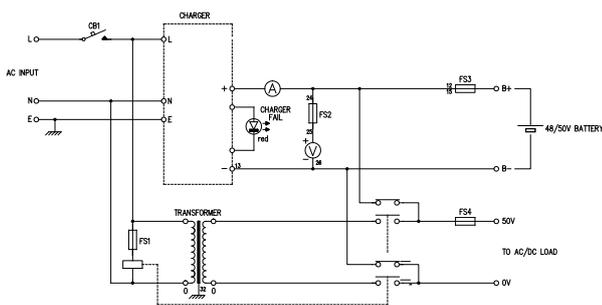
Any battery autonomy can be catered for, this will often be designed as a self-contained battery, housed in the base of the CBU. However, depending on runtime requirements, an external battery cabinet or open steel manufactured racks will be provided. Valve Regulated Sealed Lead Acid Maintenance Free 12 year design life or Nickel Cadmium 25 year design life options are available, meeting stringent emergency lighting demands.

OPERATION

All BPC Central Battery Units typically have three variations in design: a Non-Maintained System, Maintained System and Hold Off System. These designs can then be adapted to suit individual customer requirements.

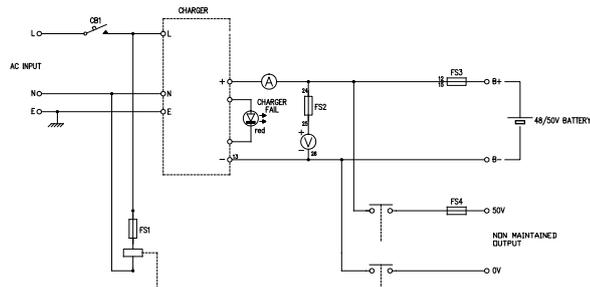
MAINTAINED

A Maintained CBU will provide an AC supply to the lights when the AC incoming power is healthy and in the event of a mains power failure at the CBU input the luminaires will be supplied with a DC Supply.



NON-MAINTAINED

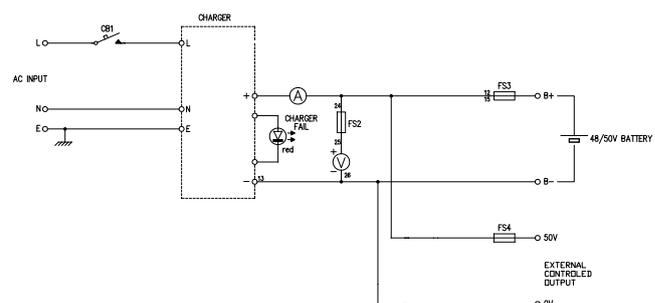
A Non-Maintained CBU will provide a DC supply in the event of a mains power failure at the CBU Input.



- » Bespoke designs
- » 12 / 24 / 36 / 48 / 50 / 110 / 220 Vdc output options
- » Low voltage cut out, 'Mains On' indicator
- » Automatic reset after using manual test button
- » Extensive range of Slave Luminaires available
- » Various back up runtimes to suit specifications
- » Ventilated mild steel cabinets
- » Options for self-contained battery compartments
- » Charge current ammeter fitted as standard
- » Maintained and Non-Maintained options available
- » Metering can include:
 - Battery / Charger fail alarm LED
 - AC fail alarm LED
 - DIN72 analogue battery volt meter
 - Volt free form C contact set for alarm annunciation to BMS

HOLD OFF DESIGN

This circuit is used when the lighting is externally controlled by hold off relays and a constant DC voltage is required to the circuit.



PowerMaster Series

Automatic Voltage Regulators – Stabilised Power Protection

2kVA – 500kVA

» Stability » Regulation » Industrial



The PowerMaster AVR protects voltage fluctuations from the incoming supply affecting your load and is designed to maintain constant set voltage at all times.

The output voltage can be monitored via the front panel analogue voltmeter and certain models are provided with high and low voltage LED indicator alarms.

The PowerMaster range includes single and three phase models and can be supplied with phase or phase & neutral and fan or oil filled cooling options.

Wide input voltage range models are available and the standard output voltage range of these may be altered upon request.

- » High efficiency, each model exceeds 95%
- » Electro-mechanical high-low voltage protection
- » Fast response time
- » Overload power protection
- » Short circuit protection
- » Sudden power interruption delay protection
- » Bypass switch options
- » Voltage meter and LED control panel
- » Isolation transformer reduces noise
- » Optional auto restart function

PowerMaster Technical Specification



Standard Specification				
Input Voltage Range	±15%			
Efficiency	›95%			
Voltage Regulation	Within input voltage range stable within +1% - 2%			
Output Voltage Adjustable Range	›±5%			
Frequency	60 Hz / 50 Hz ±5%			
Overload Capacity	When loaded 150% more than 10sec / When loaded 200% more than 2sec			
Operating Temperature / Humidity	Applicable temperature 0°C - 45°C / Applicable humidity 0 - 95%			
Power Factor	0.8 - 1			
Response Time	Speed to regulate voltage less than 0.1 sec			
Wave Distortion	‹1%			
Protection	<p>Single Phase: Provided with overload protection function. Optional accessories: over high voltage and bypass protection function</p> <p>Three Phase: Provided with overload, phase lagged, surge, bypass, delay switch etc. Protection and self-setting, over-high and over-low voltage protection. Phase unbalanced to 30% may amend balance within 2%.</p>			
Model	Power (kVA)	Phases/Voltages/Frequency	Dimensions (mm) WxDxH	Weight (kgs)
PowerMaster 100 Series – Single Phase Input & Output (without ISO. TX)				
102	2	1ph / 1ph – 230 V 50 Hz	205 x 370 x 215	17
103	3	1ph / 1ph – 230 V 50 Hz	205 x 370 x 215	19
105	5	1ph / 1ph – 230 V 50 Hz	266 x 440 x 215	25
110	10	1ph / 1ph – 230 V 50 Hz	300 x 510 x 480	48
115	15	1ph / 1ph – 230 V 50 Hz	300 x 510 x 480	55
120	20	1ph / 1ph – 230 V 50 Hz	300 x 510 x 480	68
130	30	1ph / 1ph – 230 V 50 Hz	300 x 510 x 480	83
PowerMaster 300 Series – Three Phase Input & Output (without ISO. TX)				
305	5	3ph / 3ph – 400 V 50 Hz	360 x 540 x 570	62
310	10	3ph / 3ph – 400 V 50 Hz	360 x 540 x 570	70
315	15	3ph / 3ph – 400 V 50 Hz	360 x 540 x 570	76
320	20	3ph / 3ph – 400 V 50 Hz	360 x 540 x 570	82
330	30	3ph / 3ph – 400 V 50 Hz	360 x 540 x 570	96
345	45	3ph / 3ph – 400 V 50 Hz	410 x 790 x 710	126
360	60	3ph / 3ph – 400 V 50 Hz	410 x 790 x 710	157
375	75	3ph / 3ph – 400 V 50 Hz	410 x 790 x 710	185
3100	100	3ph / 3ph – 400 V 50 Hz	530 x 1020 x 830	290
3120	120	3ph / 3ph – 400 V 50 Hz	530 x 1020 x 830	300
3150	150	3ph / 3ph – 400 V 50 Hz	520 x 970 x 1100	330
3200	200	3ph / 3ph – 400 V 50 Hz	600 x 1150 x 1320	520
3250	250	3ph / 3ph – 400 V 50 Hz	600 x 1200 x 1320	630
3300	300	3ph / 3ph – 400 V 50 Hz	1200 x 800 x 1400	890
3350	350	3ph / 3ph – 400 V 50 Hz	1200 x 800 x 1400	950
3400	400	3ph / 3ph – 400 V 50 Hz	1200 x 800 x 1400	990
3450	450	3ph / 3ph – 400 V 50 Hz	1200 x 800 x 1400	1030
3500	500	3ph / 3ph – 400 V 50 Hz	1200 x 800 x 1680	1330

Transfer Switches

STS & ATS Systems – Single & Three Phase

» Dual Source

» Industrial

» Reliable



BPC offers a variety of transfer switches to provide switching between two independent AC power sources.

Transfer Switches ensure “highest availability” of the power supply to sensitive and critical applications. The installation of an Automatic Transfer Switch or Static Transfer Switch ensures 2N architecture is achieved and allows loads with single feeds to always be supplied by the highest quality of power. The use of transfer switches and 2N architecture increases the maintainability of the switch panels and upstream equipment.

- » **Data Centres**
- » **Industrial**
- » **IT Solutions**
- » **Single Power Supply Systems**

Automatic Transfer Switches

BPC can provide intelligent Automatic Transfer Switches that can be powered from two UPS Systems, different mains supplies or a combination of both. The system also has distribution with compatibility for eight network devices to be connected from its output sockets.

Higher reliability levels are achieved by using dual power sources and outlets that can be programmed to schedule individual device shutdowns, or delay priorities ensuring maximum uptime and control for the user.

The front panel has an LCD display providing input & output status, alarms and key measurements information which can also be remotely monitored using RS232, USB or Simple Network Management Protocol (SNMP) communications.

- **Powered by two independent power sources**
- **Dual power supply for redundancy**
- **Provides seamless switching for critical IT equipment**
- **Selection of preferred source via the front panel**
- **19" rack design (1U) to fit into diverse environments**
- **Built-in USB and RS232 communications**



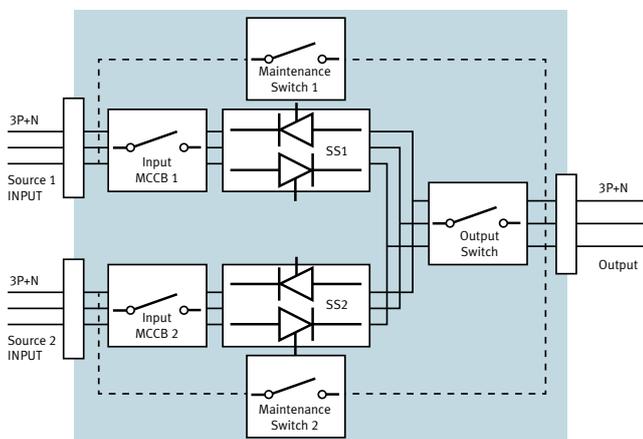
Static Transfer Switches

Automatic Static Transfer Switches (STS), enable automatic or manual transfer between two AC power supply sources, ensuring a transfer time of less than 1/4 of a cycle.

The use of STS within an electrical distribution system provides a means of secure protection against any potential disruption of the power supply, due to interruptions of the supply source or failure of the distribution lines caused by environmental phenomena or human error.

The STS provides a guaranteed means of switching between two alternative and independent power sources thus ensuring a continued supply of power to any critical load. The switching can either be AUTOMATIC, should the incoming supply fall outside the predefined window of operation (user-defined), or MANUAL, should an operator want to force switching between the two input supply sources from the mimic display panel or via a remote connection.

- **Increased power quality and increased noise reduction**
- **Selectable preferred source and method of transfer**
- **Power redundancy**
- **Power blackout protection**
- **Automatic static switching ultra fast Break Before Make transfer permits switching between two sources**
- **Power event logging**
- **Less than 5ms transfer between synchronised sources**
- **Switched neutral option maintains isolation between sources**
- **Remote management of the power events**
- **Output current capability up to 100% for short time**
- **Hot swappable option for 2 pole range**



Single Phase Model Range:
2 pole = 32A / 63A / 120A
Standard & Hot Swappable Options



Three Phase Model Range:
3 pole = 50A - 800A
4 pole = 50A - 800A



Automatic Transfer Switches

Technical Specification



MODEL	ATS - 16
Input Voltage	220 / 230 / 2340 Vac
Input Voltage Range	180-258 Vac
Input Frequency	50 / 60 Hz
Maximum Input Current	16A
Output Voltage	220 / 230 / 240 Vac
Maximum Output Current	10 A for IEC-C13 outlets / 16 A for IEC-C19 outlets
Communications	USB / RS232
Transfer Time	9-12ms (typical), 16ms (max)
Operating Temperature	0 - 95% RH at -5°C to 45°C (non-condensing)
Dimensions (mm) WxDxH	430 x 330 x 44 (1U)
Weight (kgs) including accessories	8kgs

Static Transfer Switches

Technical Specification



MODEL	2 POLE	3 POLE	4 POLE
Range	32A / 63A / 120A	50A / 100A / 150A / 200A / 250A / 300A / 400A / 600A / 800A	
Input Voltage (Ph-Ph)	220 / 230 / 240 Vac (1Ph + N + PE)	380 / 400 / 415 Vac (3Ph + N + PE)	
Input Voltage Range	180 - 264 Vac (Line to Neutral)		
Input Frequency	50 / 60 Hz		
Input Frequency Range	46-54 Hz (for 50 Hz) 56-64 Hz (for 60 Hz)	48 - 65 Hz (upper and lower Limited adjustable)	
Transfer Type	'Break Before Make'		
Transfer Methods	Automatic / Manual / Remote		
Transfer Control	Synchron	Adjustable display delay (non-synchron)	Zero current (non-synchron)
Transfer Time	≤4 msec for synchronous sources, ≤10 msec for non-synchronous sources		
Switching Type	2 poles: 1 phase + neutral switching	3 poles: 3 phase switching	4 poles: 3 phase + neutral switching
Output Current Crest Factor	3:1		
Admissable Overload	0 - 100% continuous / 101 - 150% for 1min / 151 - 200% for 10sec / >200% for 250ms		
LCD Panel and Mimic	Standard		
Protections	Output overload and short circuit protection, over temperature protection, back feed protection, SCR fault protection		
Communications	RS232 standard / RS485 optional		
TCP/IP Connections	Optional		
Dry Contacts (programmable relay outputs)	3	4	
Cooling	Forced cooling (redundant fans)		
Operating Temperature	0°C - 40°C		
Storage Temperature	-10°C up to +50°C		
Relative Humidity	90% max. (non-condensed)		
Protection Degree	IP20		
Standards	EN62310-1, EN62310-2		

Outdoor Cabinets High IP Cabinet Solutions

- » Bespoke
- » Up to IP55
- » Industrial



BPC can provide customised outdoor cabinets designed and adapted to suit all your specifications and requirements.

Using high quality materials, all standard versions are sandblast and water blast proof, with a protection degree that can reach IP55. A variety of options and accessories are available including bespoke air conditioning and anti-condensation heaters if required.

BPC can offer the complete solution, designing internal UPS or Static Inverter systems with a battery autonomy that can reach 3hr+, all integrated into an outdoor high IP enclosure.



Features:

- » Total flexibility with design
- » Cabinets can be configured with one or several front, back, side panels or doors
- » Manufactured with aluminium profiles and stainless steel screws and bolts. The structure of the cabinet is capable to support heavy duty equipment.
- » Degree of protection against ingress of water and solid objects, IP55. Degree of protection against mechanical impacts, IK10
- » Protection up to IP65 available on request
- » Aluminium hinges reinforced with stainless steel pins
- » Ventilation grills on all panel and doors
- » Removable side panels, all removable parts have a rubber sealing in order to secure the protection level
- » The front door is supplied with an ergonomic handle with three locking points, security locking cylinder and a master key system. The doors include a blocking system which allows the doors to open at 120° angle.
- » Forced air ventilation can be added with roof mounted fan trays that can be thermostatically controlled
- » Double wall – the interior of the cabinet works like a conductor similar to a radiator as the aluminium profiles have been assembled in a way that they are capable to have heat transmission
- » The cabinets have a double roof which permits the air flow between the two plates and works as an air conductor to improve the passive heat dissipation. Four eye bolts M-10 are also included to allow elevating the cabinet once equipped
- » Finish according to RAL requirements
- » 19" rackmount profile options
- » All the panels and doors are connected with earth connection cable
- » All outdoor cabinets have been tested in homologated laboratories, including:
 - EMC test
 - Wind tunnel test (up to 210 km/h)
 - Vibration test (similar to earthquake test)
 - Corrosion test
 - Temperature test



Roof mounted IP55 Outdoor UPS Cabinet

Accessories:

- Air conditioning units
- Heating systems
- Fan unit and thermostat
- Internal equipment supports
- Metering box
- Handle options including padlock options
- IP55 filters in the door, panels and bottom roof
- Distribution unit



PowerStor™ Battery Range Standby Battery Systems

» Versatile » Performance » Long Life



In today's environment, battery systems must perform in the most challenging applications. The versatile PowerStor range of sealed lead acid maintenance free batteries has all the answers with a wide choice of capacity ratings in compact cases for both standard and extended design life suitable for both cyclic and float applications.

BPC is at the forefront of modern power protection technology and our expertise in the design, development and manufacture of special and custom battery systems enables us to meet the diverse needs of the leisure, industrial, commercial, emergency services, medical and defence markets.

- » Fire alarm and security systems
- » Industrial control systems
- » Emergency Lighting
- » Uninterruptible Power Supplies
- » Model and toy products
- » Sports and leisure equipment
- » Computer/network products
- » Mobility vehicles
- » Telecom equipment
- » Portable equipment

PowerStor Features and Benefits

Low Self Discharge – Allowing the battery to be stored for extended periods without permanent loss of capacity.

Electrolyte Suppression System – PowerStor's unique construction and sealing technique ensures no free electrolyte can escape.

Operation in any Orientation – Design flexibility allows operation in any orientation with no loss of performance or concern for electrolyte leakage (exception of continuous use in the inverted position).

Compact PowerStor Design – Offers a high energy density, providing excellent power, volume and weight ratios.

Float or Cyclic use High Performance Design – Allows use for both cyclic and continuous float applications.

Wide Operating Temperature Range – PowerStor batteries can be operated in temperatures of -10°C to +50°C. However, continuous use at higher levels does affect service life.

Flexible Design – PowerStor batteries are manufactured using a range of terminals to suit most standard applications but custom designs are available.

Deep Discharge Recovery – Unique processes are used in the grid alloy and electrolyte providing easy recharge to normal levels after being deeply discharged.

The PowerStor range has a wide choice of technologies and capacity ratings for both standard and extended design life, suitable for engine starting, Cyclic and float applications. BPC extended battery range & accessories includes:

- » **Sealed Lead Acid AGM Batteries**
- » **Sealed Lead Acid Gel Batteries**
- » **Rackmount Front Access Sealed Lead Acid AGM Batteries**
- » **Rackmount Front Access Sealed Lead Acid Gel Batteries**
- » **Nickel Cadmium Vented Alkaline Batteries**
- » **Cycling Sealed Lead Acid Batteries for Electric Vehicle Applications**
- » **Battery Enclosures**
- » **Battery Options & Accessories**
- » **Battery Monitoring System**

NHS Hospital, UK



PowerStor Sealed Lead Acid Maintenance Free

PS (standard) Series

Utilising the latest advanced absorbed glass mat (AGM) and gas recombination technology, PowerStor valve regulated sealed lead acid (VRLA) batteries ensure maintenance free, reliable performance and outstanding service life with 5 years expectation in float standby applications.



PSL (long life) Series

For mission critical applications requiring longer in-service life the PowerStor PSL range is available with an enhanced grid and separator design. As a result of the largely increased battery life, up to 12 years in optimum float conditions, it is possible that electrical equipment can be supported throughout its own full service life without it being necessary to change the battery.



PSLIFR (2V- 15yr life) Series

The ultimate in reliability, quality, technology and safety, the PowerStor PSLIFR range of 2 volt single cell batteries has excellent service life up to 15 years in optimum float conditions. Each cell has a flame retardant case and lid as standard and meet BS6290 Part 4 specifications.



PowerStor Special Application Batteries

POWERSTOR – PSL RACK RANGE

The PowerStor PSLRACK range of sealed lead acid batteries is designed for mission-critical telecommunication and industrial applications requiring longer in-service life, up to 10 years in optimum float conditions. The batteries are designed to be compatible and able to fit in 19" telecom cabinets with ease. With a wide choice of capacity ratings in compact rackmount cases, the PSLRACK range can suit any autonomy requirements.



POWERSTOR – NICKEL CADMIUM RANGE

Nickel Cadmium Batteries are manufactured in basic ranges to match specific operating conditions and provide different performance characteristics. All nickel cadmium batteries use relatively expensive materials to combine maximum performance with minimum maintenance and optimum life of 20 to 25 years. Thus, the nickel cadmium battery may be more expensive in the initial cost than lead acid batteries but will be considerably more cost effective over the long term.



POWERSTOR – GEL RANGE

For mission critical deep cycle applications requiring longer in-service life, the PowerStor Gel range is available with an enhanced grid / separator design and a gelled electrolyte introduced to the cell by means of custom built vacuum filling machine technology. As a result, Gel batteries have many advantages over AGM such as full recovery from deep discharge, good tolerance to higher temperature applications, excellent performance over long discharges and improved charge acceptance due to low internal resistance so it is important to choose the right battery for your application.



POWERSTOR – EV RANGE

Cyclic sealed lead acid batteries for electric vehicle applications. The versatile PowerStor EV range of sealed lead acid batteries offers higher performance against deep discharge, repeat daily cycling, higher temperature and mobile type applications. With a wide choice of capacity ratings in compact cases we can offer solutions for the most challenging applications.



PowerStor Battery Analysis & Care System (BACS)



Civil Aviation Authority Installation, Europe

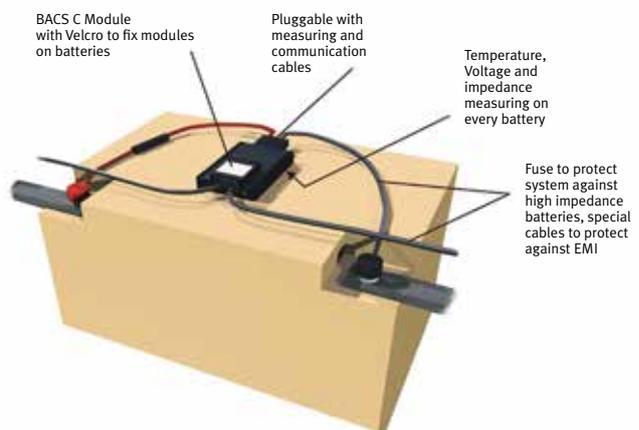
BPC BACS is the most advanced product of its kind on the market today. An Ethernet integrated battery monitoring and management system, BACS uses web management technology to monitor the temperature, internal resistance and voltage of every single battery in a given system.

In critical standby applications the battery can be a large integral part of the system and can also be an unpredictable element of the design. Battery condition can be invisible and not determined from its appearance making early diagnosis hard, especially if problems have been experienced in transit, storage, installation, poor site conditions or misuse causing failure of just one cell which can lead to open-circuit of a complete battery.

The analysis part is the continuous checking of the internal resistance, temperature and voltage of every single battery block. The care part is an equalisation process that corrects the charging voltage for each battery block as well as constant monitoring and controlling. In addition, it can manage environmental measurements such as temperature, humidity etc., as well as the UPS and Inverter system.

- » **Monitoring and regulating the charging process**
- » **Individual voltage regulation through the equalising process**
- » **Equalisation to avoid overcharging and undercharging**
- » **Indicators to alert battery problems**
- » **Protection of neighbouring batteries**
- » **Increase battery capacity**
- » **Early warning and alert system permits early treatment**
- » **UPS / Inverter power manager**
- » **MODBUS / PROFIBUS / LONBUS / SNMP compatible**
- » **Analysis software provided**
- » **Effectively extends the battery life expectancy**
- » **Reduces frequent site inspection and the need for manual measurements**
- » **Very efficient and economical method of testing**
- » **Intelligent battery disconnection**

BACS effectively mitigates the possibility of overcharging the batteries, helping to prevent gassing and drying, as well as alleviating the possibility of undercharging, preventing sulfation. Through the equalisation process, the batteries are kept at an optimal charging voltage and therefore, in an optimal state of health. By managing the batteries charging voltages, BACS vastly improves the durability and reliability of the system.



PowerStor Battery Analysis & Care System (BACS)

The web browser interface of the system is designed for easy configuration, displaying all system values and events and alarms through a flexible event manager.

The BACS WebManager acts as the central control unit by gathering, evaluating and storing all information on its internal flash memory. This can log all system data for a duration of at least 6 months up to 3 years dependent on the size of the system. All data can be downloaded and archived over the network in order to free-up storage capacity for further data logging and analysis using the BACS Viewer software or other graphical programmes.

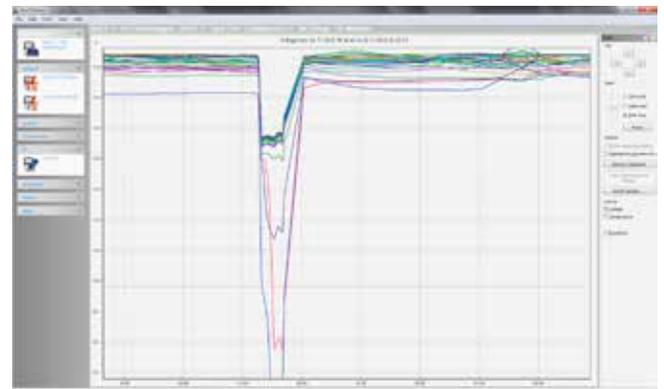
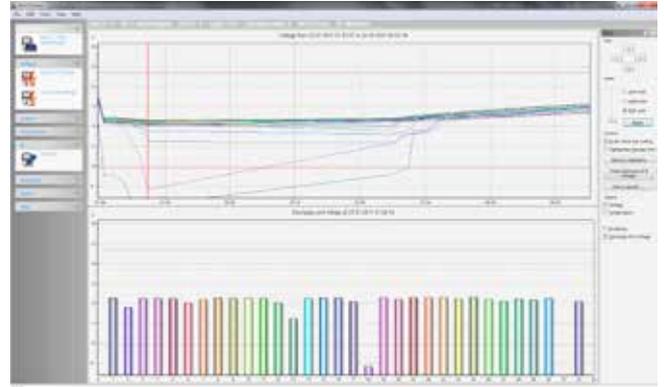
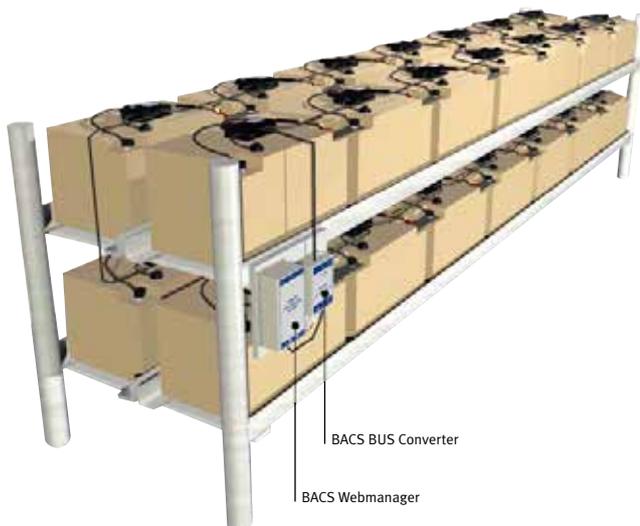
BPC BACS monitors key battery parameters and sets thresholds, therefore allowing advanced warnings, via audio, video and network messages, of a system event that requires attention.

ENHANCED MAINTENANCE

Typical battery problems like sulfation, gassing, dry-out and thermal runaway are easily detectable given proper monitoring.

The BPC BACS improves service quality by providing remote monitoring through the internet, VPN or any other network that allows downloading of real time data and battery history.

It is possible to test batteries without disconnecting them from the system meaning that testing and maintenance can take place under real operating conditions and requires no downtime.



EXTENDED BATTERY LIFE

The service life of a battery string depends on the weakest cell of the weakest battery in a string. The BACS equalising process allows each of the batteries within a string to be maintained at optimal voltage levels, eliminating the ill effects of improper charging. The constant care provided by the equalising process has been shown to increase service life by more than 30%.

BATTERY PROTECTION

The BPC BACS system can be the protective entity in the system by continuously monitoring each parameter, and a DC Isolator can be tripped if the batteries hit alarm levels in impedance, temperature or voltage. This helps eliminate and prevent thermal runaway of the battery.

ALERTING

The BPC BACS system continuously monitors high and low parameters of each individual battery block. It will send out warnings and then alarms when different limits are reached. These alerts are sent instantly to the person responsible for maintenance via email or any other compatible device.

Inverters

Single Phase Input & Output
Simulated and Pure Sinewave Systems

» Solar

» Green

» Compact

VFD



The Home Office ICT Inverter is a compact design for home and office appliances. It has a selectable wide input voltage switch for flexibility, overload and short circuit protection, providing a green substitute for generators without air pollution.

The Smart Home Inverter is connected to batteries and the main electrical source at the same time. With mains power the system is designed to charge the batteries and store power, when there is a mains failure, the inverter converts the DC to AC to power the loads. Ideal source of energy when conventional power is not available.

The Expert Professional Inverter combines functions of an inverter, solar charger and battery charger to offer uninterruptible power. The LCD display offers comprehensive user-configurable information such as battery charging current, AC/Solar charger priority, and acceptable input voltage depending on the application.

The PowerGem Inverter is designed for sustaining much larger autonomy batteries for applications where the mains power supply is unreliable and expected to be absent for long periods of time. Combined with internal super-chargers and an intelligent LCD display, the Inverter is able to convert DC to AC and replenish the energy back in the battery quickly and efficiently.

Home Office ICT Inverter 600VA – 1500VA

Technical Specification



- Simulated Sinewave Inverter
- Selectable input voltage range for ICT equipment and home appliance type applications
- 12 Vdc or 24 Vdc batteries available
- Selectable charging current: 10A or 20A
- Auto restart while AC is recovering
- Smart battery charger design for optimised battery performance
- Overload and short circuit protection
- Multiple LED indication and audible alarms
- Suitable for information and communication equipment, telephone systems, broadband routers, computer related devices and low energy lights

MODEL	ICT INV 600	ICT INV 850	ICT INV 1500
Power Rating VA / Watts	600 / 360	850 / 600	1500 / 1050
INPUT			
Nominal Voltage	230 Vac		
Voltage Range (Selectable)	180 - 260 Vac (for ICT equipment) 100 - 300 Vac (for home appliance type application)		
Frequency	50 / 60 Hz (auto sensing)		
OUTPUT			
AC Voltage Regulation (Battery Mode)	230 Vac \pm 10%		
Transfer Time	20ms (max.)		
Waveform	Simulated Sinewave		
BATTERY			
Nominal Battery Voltage	12 Vdc		24 Vdc
Floating Charge Voltage	13.7 Vdc \pm 2%		27.4 Vdc \pm 2%
Low Battery Alarm Voltage	10.2 Vdc \pm 2%		20.4 Vdc \pm 2%
Shutdown Voltage	9.9 Vdc \pm 2%		19.8 Vdc \pm 2%
Overcharge Protection	15 Vdc \pm 2%		30 Vdc \pm 2%
Maximum Charge Current	10A or 20A (Selectable)		
Recommended Battery Capacity	100AH - 200AH (normal recommendation), 300AH - 400AH (depending on reliability of mains supply)		
GENERAL			
Full Protection	Overload and short circuit protection		
Operating Humidity	0 - 90% relative humidity (non-condensing)		
Operating Temperature	0°C - 40°C		
Storage Temperature	-15°C - 70°C		
Dimensions (mm) WxDxH	290 x 289 x 127		
Net Weight (kgs)	5	7	10

Smart Home Inverter 700VA – 1200VA Technical Specification



- Pure Sinewave Inverter
- Selectable input voltage range for ICT equipment and small home appliances
- LCD user friendly display panel
- Selectable charging current based on applications
- Auto restart while AC is recovering
- Overload and short circuit protection
- Compatible for generators & computer-related devices
- Smart battery charger design for optimised battery performance
- Cold start function
- Suitable for intelligent home with ICT equipment plus LCD and/or small house appliances

MODEL	SMART HOME 700	SMART HOME 1200
Power Rating VA / Watts	700 / 500	1200 / 840
INPUT		
Nominal Voltage	230 Vac	
Voltage Range (Selectable)	170 - 280 Vac (for personal computers) / 90 - 280 Vac (for home appliances)	
Frequency	50 / 60 Hz (auto sensing)	
OUTPUT		
AC Voltage Regulation (Battery Mode)	230 Vac \pm 5%	
Surge Power	1400 VA	2400 VA
Efficiency (Peak)	90%	
Transfer Time	10ms (for ICT equipment) / 20ms (for home appliances)	
Waveform	Pure Sinewave	
BATTERY		
Nominal Battery Voltage	12 Vdc	
Floating Charge Voltage	13.5 Vdc	
Low Battery Alarm Voltage	11.5 Vdc	
Shutdown Voltage	10.5 Vdc	
Overcharge Protection	15 Vdc	
Maximum Charge Current	10A or 15A (Selectable)	10A or 20A (Selectable)
Recommended Battery Capacity	100AH - 200AH (normal recommendation), 300AH - 400AH (depending on reliability of mains supply)	
GENERAL		
Full Protection	Overload and short circuit protection	
Operating Humidity	0-90% relative humidity (non-condensing)	
Operating Temperature	0°C - 50°C	
Storage Temperature	-15°C - 70°C	
Dimensions (mm) WxDxH	290 x 289 x 127	
Net Weight (kgs)	4.5	4.8

Expert Professional Inverter 1kVA – 5kVA

Technical Specification



- Pure Sinewave Inverter
- Selectable input voltage range for ICT equipment and home appliances
- LCD user friendly display panel
- Selectable charging current based on applications
- Configurable AC/Solar input priority via LCD setting
- Compatible to mains voltage or generator power
- Parallel operation up to 4 units (Expert 4K & 5K models only)
- Auto restart while AC is recovering performance
- Overload and short circuit protection
- Smart battery charger design for optimised battery performance
- Cold start function
- Suitable for intelligent homes with ICT equipment, LCD TV and house appliances such as light bulbs, fluorescent tubes, fans, TVs, refrigerators, etc.

MODEL	EXPERT 1K	EXPERT 2K	EXPERT 3K	EXPERT 4K	EXPERT 5K
Power Rating VA / Watts	1000 / 800	2000 / 1600	3000 / 2400	4000 / 3200	5000 / 4000
INPUT					
Nominal Voltage	230 Vac				
Voltage Range (Selectable)	170 - 280 Vac (for personal computers) / 90 - 280 Vac (for home appliances)				
Frequency Range	50 / 60 Hz (auto sensing)				
OUTPUT					
AC Voltage Regulation (Battery Mode)	230 Vac \pm 5%				
Surge Power	2000 VA	4000 VA	6000 VA	8000 VA	10000 VA
Efficiency (Peak)	90%	93%			
Transfer Time	10ms (for personal computers) / 20ms (for home appliances)				
Waveform	Pure Sinewave				
BATTERY					
Nominal Battery Voltage	12 Vdc	24 Vdc		48 Vdc	
Floating Charge Voltage	13.5 Vdc	27 Vdc		54 Vdc	
Overcharge Protection	15.5 Vdc	31 Vdc		60 Vdc	
Maximum Charge Current	10A or 20A	20A or 30A		20A or 30A	
Recommended Battery Capacity	100 AH - 200 AH (normal recommendation) 300 AH - 600 AH (depending on reliability of mains supply)				
SOLAR CHARGER (OPTIONAL)					
Charging Current	50A				
Maximum PV Array Open Circuit Voltage	30 Vdc	60 Vdc		90 Vdc	
Standby Power Consumption	1W	2W		2W	
GENERAL					
Full Protection	Overload and Short Circuit Protection				
Operating Humidity	5% - 95% relative humidity (non-condensing)				
Operating Temperature	0°C - 55°C				
Storage Temperature	-15°C - 60°C				
Dimensions (mm) WxDxH	240 x 95 x 316	272 x 100 x 355		295 x 120 x 468	
Net Weight (kgs)	5	6.4	6.9	9.8	9.8

PowerGem Inverter 3kVA – 10kVA Technical Specification



- True online double conversion
- Digital Signal Processor (DSP) technology
- Intelligent self-diagnostics
- True sinewave output
- LCD user friendly display panel
- Compatible to mains voltage or generator power
- Cold start function
- Overload and short circuit protection
- Smart battery charger design for optimised battery performance
- Internal super (built-in) charger
- Larger battery stands/cladded racks or cabinets
- Intelligent slot for SNMP or Relay card
- Parallel operation (10kVA) up to 3 units
- Output power factor 0.8

MODEL	PGEM 3KC24	PGEM 10KC20
Power Rating VA / Watts	3000 / 2400	10000 / 8000
INPUT		
Nominal Voltage	230V	
Voltage Range (Selectable)	160 Vac - 300 Vac	110 Vac - 300 Vac
Frequency Range	40 Hz - 70 Hz	46 Hz - 54 Hz @ 50 Hz system (56 Hz - 64 Hz @ 60 Hz system - optional)
OUTPUT		
AC Voltage Regulation (Battery Mode)	±1%	
Efficiency (Peak)	90%	89%
Transfer Time	Zero	
Waveform	Pure Sinewave	
BATTERY		
Nominal Battery Voltage	72 Vdc	240 Vdc
Floating Charge Voltage	82.1 Vdc	273 Vdc
Low Battery Alarm Voltage	67.7 Vdc	228 Vdc
Shutdown Voltage	64.8 Vdc	294 Vdc
Overcharge Protection	88.2 Vdc	294 Vdc
Maximum Charge Current	24A	20A
Recommended Battery Capacity	240 AH	200 AH
GENERAL		
Operating Humidity	0 - 95% (non-condensing)	
Operating Temperature	0°C - 40°C	
Storage Temperature	-20°C - 50°C	-15°C - 60°C
Dimensions (mm) WxDxH	190 x 419 x 318	250 x 592 x 826
Net Weight (kgs)	16	35

Industrial Products

Specialised Power Protection Products

FREQUENCY & VOLTAGE CONVERTERS

The PowerPro HP range of products offers very flexible technology which can be designed for frequency conversion 50 Hz, 60 Hz or 400 Hz solutions and/or voltage changes enabling us to meet your industrial specification and requirements.

All PowerPro FC and VC ranges have an enviable reputation for consistent reliability, ease of installation and maintenance, making them ideal for intelligent control equipment, oil, gas and petrochemical industry, hospital and medical, airport ground support, defence, avionics and navigation aid applications.



AC/DC POWER SUPPLY COMPLETE SYSTEM

BPC offers a wide range of standard and customised DC power supply systems using the modular rectifier technology. All systems are scalable, redundant and can be configured according to the customer's requirements. Due to the hot swappable technology, all systems have high availability and can be updated to the actual power requirement during operation. This guarantees long-lived DC power supplies without any interruption of the load supply.



CUSTOMISED HYBRID POWER SUPPLY SYSTEMS

The PowerPro HP UPS technology can be combined with modular DC power supplies to provide an effective hybrid AC/DC power supply system. It is designed to give both UPS and DC outputs with all the flexibility and adaptability needed. This modern, compact hybrid AC/DC system has an enviable reputation in consistent reliability, ease of installation and maintenance making it ideal for telecommunications, instrumentation, industrial, defence, medical and process control applications.



SWITCH TRIPPING & BATTERY CHARGERS

The BPC range of switch tripping and closing duty, fully automatic battery charger systems provide a reliable and robust solution for all your switch-gear tripping requirements. Utilising the latest high efficiency switch-mode technology, these systems are suitable for continuous charging of all common battery types, such as sealed lead acid VRLA / AGM, GEL, flooded lead acid and Nickel Cadmium. Conventional or intelligent multi-stage charging profiles are utilised to ensure maximum battery life and all systems are designed for permanent connection to the batteries, maintaining them in a fully charged condition without overcharging.



OUTDOOR 2kVA UPS

The PowerPrem Outdoor 2kVA UPS is designed to keep your system operational in adverse conditions specifically for harsh environments and operating temperatures from -40°C to +70°C. The system is a robust unit complete with an LCD display panel providing control, measurements and fault analysis, whilst boasting full intelligent communication options including RS232, USB and SNMP making it ideal for the more challenging of applications.



TELECOM SYSTEMS

Solutions for both rectifier and battery charging applications are based on modular primary switched mode power systems with a compact design and very high power density. The compact modules enable a lot of new application fields in industrial environments, especially in constricted installation facilities. All systems have the capability for further modules to be added in parallel operation resulting in high-grade flexibility and reliability by providing N+1 configuration.



INVERTERS – DC/AC SYSTEMS

BPC inverters are very robust units with a high overload ability likely to be used in rugged industrial environments and in offshore applications.

The 19" versions have connectors at the rear. On demand, several inverters can be connected in parallel operation in order to increase the power or to increase the availability (redundant operation). Additional electronic bypass switches can be used for a further increase in capability of AC power supply systems.



GENERATORS

BPC has an excellent range of super-silenced, high-specification generators which are very competitively priced and designed for all installation types.

BPC's product range includes diesel powered generating sets from 5kVA to 300kVA single or three phase, low or medium voltage and are available for a wide range of applications.



Solar Bespoke Commercial Systems

Tomorrow's Generation Today

» Renewable

» Peak Efficiency

» Quality

BPC Solar photovoltaic (PV) systems are an essential for the growing renewable market and convert free solar energy – the most abundant energy source on the planet – directly into solar power. They produce solar electricity in a noise-free environment without emissions of greenhouse or any other gasses.

Systems supply solar electricity to many applications ranging from private homes, commercial buildings or remote sites far away from human inhabitancy.

BPC can offer solutions directly connected into the main electricity "Grid Tie" network. This means that during the day, solar electricity generated can either be used immediately or sold to one of the electrical supply companies. In the evening, when the solar system is unable to provide electrical energy, power can be bought back from the network.

Standalone solar systems have been used for many years to supply applications where mains electricity power is not available and BPC can provide an alternative solution, most often with deep cycling lead acid batteries.

Examples include:

- » **Monitoring stations**
- » **Radio repeaters**
- » **Remote ATMs**
- » **Telephone kiosks**
- » **Street lighting**



Solar farm constructed in Dorset, UK totalling near 7MW and 26,923 solar panels

BPC solar systems are now being widely used in the developing world, particularly where the electricity grids are unreliable or non-existent but the demand for critical applications such as medical, telecommunications and banking are essential, often making solar power supplies the most economical option.

SOLAR PANELS

BPC offer a full range of Solar Panels with quality technology to suit design requirements, location and type of installation. BPC design a cost effective solution to ensure both higher and lower peak efficiencies are met. It is important when designing solar systems as a whole to balance price with quality.



SOLAR INVERTERS

BPC EnerSolar PV Inverters are embedded with two smart MPP trackers that ensure optimum power output voltage under a variety of weather conditions. The EnerSolar has a wide input voltage range generating a maximum 96% efficiency. User friendly and modular design features bundled with monitoring software to ensure optimum accuracy in energy savings.



SOLAR BATTERIES

The BPC PowerStor Solar range use GEL maintenance free technology to enhance the deep cycling performance and provide a robust design that meets the demands of solar applications. Providing benefits when operating at high and low temperatures, having the capability to withstand unpredictable charging with daily cycling.



SOLAR SERVICES

BPC can offer tailored design, manufacture, installation, commissioning, maintenance and training services for panels, inverters and cycling standby battery systems. Full site reviews and testing services, ranging from visual inspections to electrical tests are available to protect and maximise your solar PV investment. Appropriate maintenance can identify performance issues and potential equipment failures before they become a problem.



Accessories

Extensive range of accessories to accompany the BPC product portfolio

EXTERNAL MAINTENANCE BYPASS

All BPC UPS are equipped with an Internal Static Switch allowing for instantaneous transfer to mains reserve supply when the power demand of the load exceeds the overload level of the inverter or a short circuit is experienced.

However, an optional External Manual Bypass Switch facility may be provided to offer the opportunity to do commissioning, routine maintenance, repair or removal of the equipment without any interruption to the critical load. Both make-before-break (MBB) and break-before-make (BBM) bypass switch designs are available.

A comprehensive range of bypass switches which are built to the highest standard using proven components are available in both single and three phase with variations for dual input supplies or parallel redundant configurations. Bypass switches can be customised and tailored to suit specific requirements for either UPS, Static Inverters or DC systems including the integration of output distribution boards, Castell interlock systems or auxiliary contacts within the same enclosure.



REMOTE MONITORING PANEL

All PowerPro ranges of UPS Systems can be connected to a Remote Monitoring Panel (RMP) that allows the possibility to monitor different parameters from the control panel of the UPS System.

More than one RMP can be connected together in cascade for monitoring your UPS System from several different locations at the same time. The normal distance for locating a RMP in its standard format is 20m from the UPS, however longer distances can be achieved using the optional RS485 converter.



MAINS & LOAD CABLES

BPC offers a full range of UPS and DC products which have to be connected to the mains supply and critical load. Most products are provided with the essential cable kit for plugging into the mains supply and connecting to the load. However, in many instances the application may require additional IEC to IEC 320 load cables, different load sockets such as IEC, Schuko, NEMA or special military type connections. BPC can provide these in addition to longer length connection cables if required.

Any special power connection requirements can be designed and manufactured by BPC.



SWITCHGEAR & CHANGEVER PANELS

Every switchboard is individually designed to suit our clients requirements including:

- Forms of separation: Form 2 to 4, type 1 to 7
- Ratings: 100A to 6300A
- Type tested assemblies (IEC 61439-1)
- Board access: Front and rear
- Cable entries: Top and bottom, entry or exit
- Mains, gen-man, auto changeover controls
- Electrical or mechanical interlocking
- Restricted or unrestricted earth fault
- Power factor correction (switchboard or stand alone)
- Surge protection



BATTERY ACCESSORIES

BPC offer a comprehensive range of battery accessories which include open steel battery stands and cladded enclosed battery racks that can easily be assembled or disassembled, also including complete battery cabinet system options. These have been designed both technically and aesthetically as an integral part of the equipment system, forming a single unit which can be easily located without the need for special site considerations.

Other accessories include insulated battery shrouds, cable kits, DC switchable fuses and DC circuit breakers.

BPC also offer battery testing accessories for voltage and impedance testing along with insulated battery tools to simplify safe battery maintenance.



BPC Service & Support

Service, Maintenance, Rental & Training



Keep the Power on

Choosing the right backup power supply can be a long and costly process, but once you have found a suitable system, longevity is essential.

The investment made to ensure your critical equipment is supported does not stop at installation. A reliable and efficient UPS or Static Inverter is only the start to ensure you gain full expected life from your power supply, regular maintenance is vital.

BPC's commitment is to achieve the highest levels of customer satisfaction by providing real solutions that work reliably and meet your specific needs. All BPC products are backed by a superb after sales service providing comprehensive emergency breakdown and spares support.

BPC's devotion is reflected in the enduring quality of its products and is matched by an equally lasting commitment to customer care.

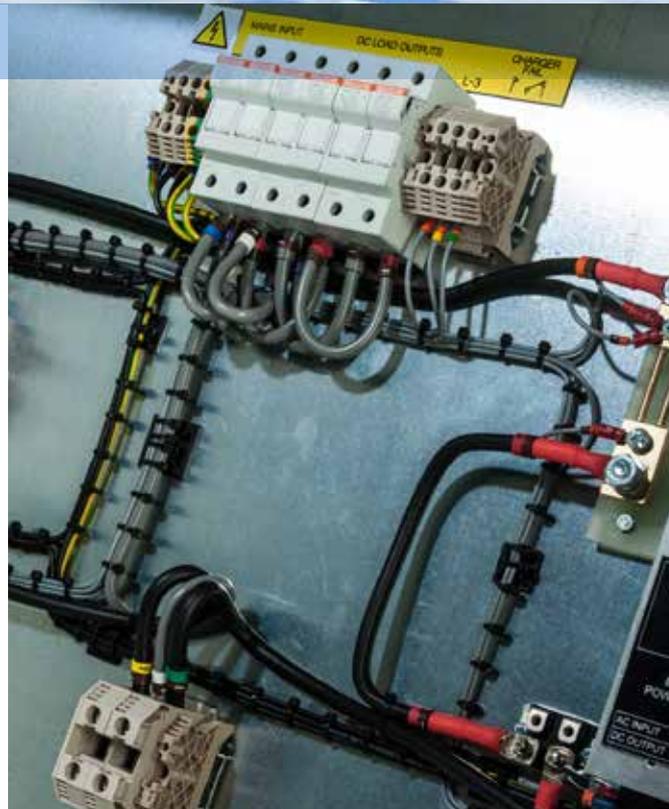
Why Choose BPC?

ENGINEER EXPERTISE

BPC have some of the most able and talented power protection engineers in the business. A wide span of industry experience backed by an extensive knowledge on the latest technologies allows BPC to offer a high level of service on not only BPC products but also third party equipment.

APPROVALS & ACCREDITATIONS

BPC's high level of service is backed by the approval and accreditations attained. Certified in ISO9001:2008 quality procedures, Verification of Manufacturer's Testing (VMT) certification, Contractors Health and Safety Assessment Scheme (CHAS) and Safe Contractor approved, showing health and safety principles.



Pre-Sales Support

SYSTEM DESIGN

BPC are able to offer system design to meet with all your exact requirements regardless of the size or complexity of your application. They can tailor a solution to suit both your commercial and technical requirements by utilising either modified commercially off the shelf products or custom built as a bespoke design.

SITE SURVEYS

Carried out by a BPC engineer or a BPC approved installation engineer, a Site Survey will provide all of the information on the work necessary for the installation of the UPS. This can include all site preparation, remedial building work and the provision of air conditioning in addition to electrical services.

Post sales, this service is provided to ensure all aspects are inspected and noted to ensure smooth and efficient off load and positioning of the equipment is carried out.

HEALTH CHECKS

It is extremely important to carry out regular checks on your UPS & Battery Systems to ensure you have complete protection at all times.

BPC can carry out a general health check on your current UPS and battery installations and the inspection is designed to be none intrusive and pose no risk to the protected loads.

The engineer will carry out visual checks on the UPS, examine and record all measured parameters such as:

- Input voltages
- Input currents
- Output voltages
- Output currents
- Output frequency
- Percentage load
- Battery voltage
- Charge current
- Internal temperature

Alarm logs will also be inspected and recorded and batteries will be checked for cracking, swelling, signs of leakage, overheating etc.

On completion of the inspection, BPC will advise the customer of any immediate concerns and a full report will be provided.

After Sales Support

INSTALLATION & COMMISSIONING

All BPC installations are carried out by approved engineers who are experts in the installation of UPS and related equipment. If required, BPC can provide a managed turnkey service which provides for delivery to site and all associated installation electrical and building work. All BPC installations are compliant with current regulations and full certification will be issued on completion.

BPC are able to meet with all your exact requirements regardless of the size or complexity of your application. A solution can be tailored to suit both your commercial and technical requirements by utilising either modified commercially off the shelf (COTS) products or custom built as a bespoke product.

BPC have a dedicated team of managers and engineers who can provide a total solution from surveying your site through to complete commissioning of the system.

It is vital that your UPS or Static Inverter is fully commissioned to ensure it is installed and running correctly. Commissioning by a trained engineer will check the performance of the system whilst also checking the environment is suitable to achieve maximum service life.



MAINTENANCE & SERVICE PLANS

Any power protection equipment is an investment for any sized company and having the reassurance that your equipment is maintained to ensure full life expectancy is key.

BPC can offer a range of maintenance agreements all with 24 hour telephone support. Agreements vary in price depending on the level of support and response time required. Options from next working day to 4 clock hour responses are available nationwide. BPC can be very flexible to suit customer requirements whether it is an additional annual visit or strategic spare part requirements.

With the knowledge and experience to support third party equipment it is now even easier to choose BPC as your service provider, allowing us to support all your equipment at site regardless of quantity, size, make or model, ensuring a high level of support and one single point of contact.

Supported Brands include:

- Emerson
- Chloride
- Liebert
- APC/Schneider
- Merlin Gerin
- Riello
- Gamatronic
- Powerwave
- Eaton
- Coopers
- SIEL
- Salicru
- JSB
- Menvier
- Best Power

HAZARDOUS WASTE DISPOSAL

Due to tight regulations within England and Wales on the transport of batteries that are at the end of their life, BPC Energy are fully equipped to offer complete removal and replacement services. BPC are registered upper tier waste carriers for the safe transportation of batteries with the Environment Agency in England & Wales. Registration No. CB2U66604

RENTAL OPTIONS

BPC have launched a UPS rental scheme for those specific requirements where mains supply power backup is required for limited periods of time.

A range of the latest technology UPS, from 6kVA up to 80kVA, including modular redundant systems are kept in immediate readiness to be delivered to site to suit a variety of eventualities such as relocation, planned maintenance or emergencies.

Various battery backup times are also available ranging from nominal 10 minutes to several hours. Rental can be as short as one month or as long as required, with special reductions for longer periods, and include commissioning and decommissioning of the units. If required, installation and battery assembly can also be arranged.

As you would expect from a company with BPC's reputation for service and support, all the rental UPS systems are backed by an inclusive next working day fully comprehensive support plan, which can be enhanced to 4 or 8 hour response times.

Rental services may be required during the following circumstances:

- Temporary situations, during exhibitions, seminars, road shows or refurbishments
- During planned power interruptions, when building work is taking place
- While an upgrade is planned and the load is increased
- May be more suitable to hire than purchase at the time
- Mission-critical activity is occurring
- During the start up period of your new business
- To see whether a long-term investment of a UPS would be appropriate for your business

International Training Course in Dubai, UAE



TRAINING COURSES

BPC offers fully flexible training courses to suit any specific requirement of our customers. Our quality training courses are led by highly experienced and knowledgeable BPC engineers available to answer any query and offer full technical assistance and guidance throughout.

Courses are generally held at our comprehensive headquarters in the UK offering a mixture of both classroom and workshop facilities in order to allow for all aspects of theory and practical training. However, as the BPC Group is an international company with offices and distributors across the world, we can offer fully tailored courses to take place around the globe.

The courses can last anywhere between one day to a week depending on the course content, and on successful completion

of the course a certificate will be awarded to each participant certifying proficiency.

BPC can also offer free technical seminars, independently certified by the Chartered Institute of Building Service Engineers to conform to CPD guidelines, ideally suited for consultants and electrical engineers. Offered anywhere across the UK, a specialist trainer can visit your site for a 1 hour seminar to cover topics including UPS fundamentals, UPS topologies, UPS maintenance and battery management.



BPC Virtual Service

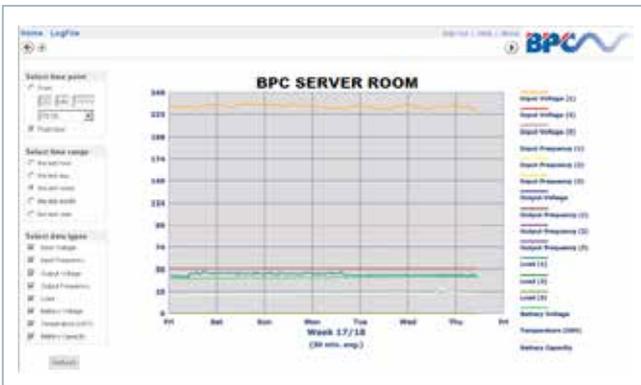
24/7 Remote Monitoring Solution

BPC Virtual Service continuously communicates with a BPC UPS or Static Inverter to provide a 24/7 monitoring solution anywhere in the world. All communication transfers to the UK based control centre where the data is analysed by experienced and qualified BPC engineers.

If an anomaly or fault should occur, the BPC controller will investigate and determine what action should be taken. The controller will mobilise an engineer or make contact with a local based service partner and provide all necessary details to report direct to the customer.

Virtual Service provides the highest customer security by ensuring one way communication with the site. The power device requires only a BPCVS-SNMP card connected directly to the local network to allow monitoring.

All of the Virtual Service communication to the BPC Control Centre is transmitted purely by email as the SNMP card sends an email package of data every 10-16 minutes. This secure connection is completely controlled via the site and removes BPC from any access to secure data.



The Virtual Service system has the ability to monitor multiple Power Devices:

- UPS Systems
- Static Inverters
- Batteries
- Static Transfer Switches
- Generators
- Environmental Sensors
- DC Systems

Key Benefits:

- 24 hour continuous monitoring and management of your power device
- Business critical loads protected by dedicated and highly skilled personnel
- Prevention and early detection before fault occurs
- Ideal for mission critical systems and unmanned sites
- Annual reports provide in depth details of readings and events

REPORTING

Depending on the level of Virtual Service required, annual or monthly reports are provided which detail the captured readings and events. BPC Virtual Service can capture the following data:

- Input Voltage
- Input Frequency
- Battery Voltage
- Battery Temperature
- Battery Capacity
- Autonomy Time
- Load Percentage
- Output Voltage

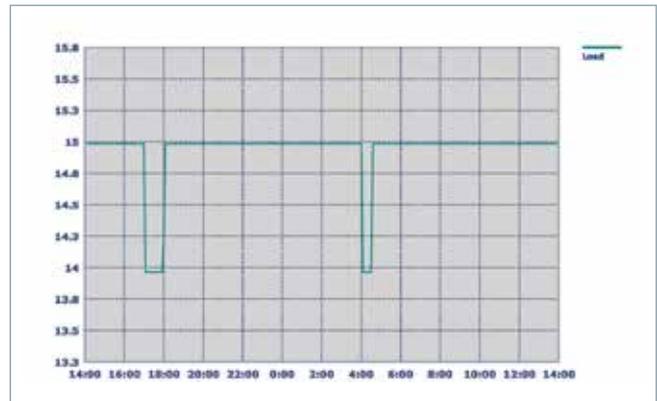
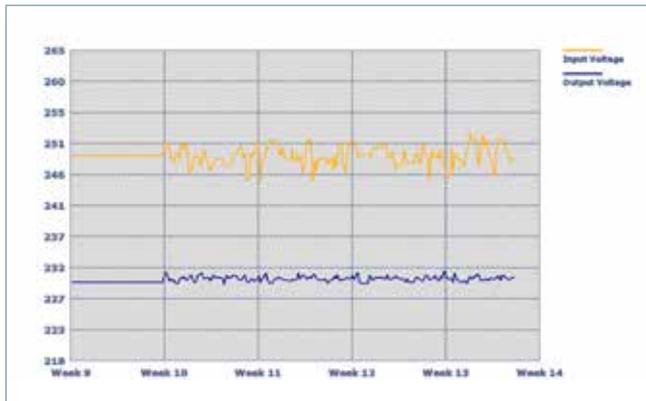
ALERTS

The email transfer system is called the Power Heart-Beat. The virtual service control centre is continuously monitoring the steady pulse being sent by the power device. If the power device heart-beat stalls or stops, the BPC controller is made aware and contacts the necessary party to investigate.

COMPLETE SERVICE PACKAGE

BPC Virtual Service works in tandem with your existing service contract and Battery Analysis and Care System (BACS), improving service levels and mean time to repair, by allowing the engineer to arrive on site with the correct equipment and spares.

Example screenshots of BPC Virtual Service.

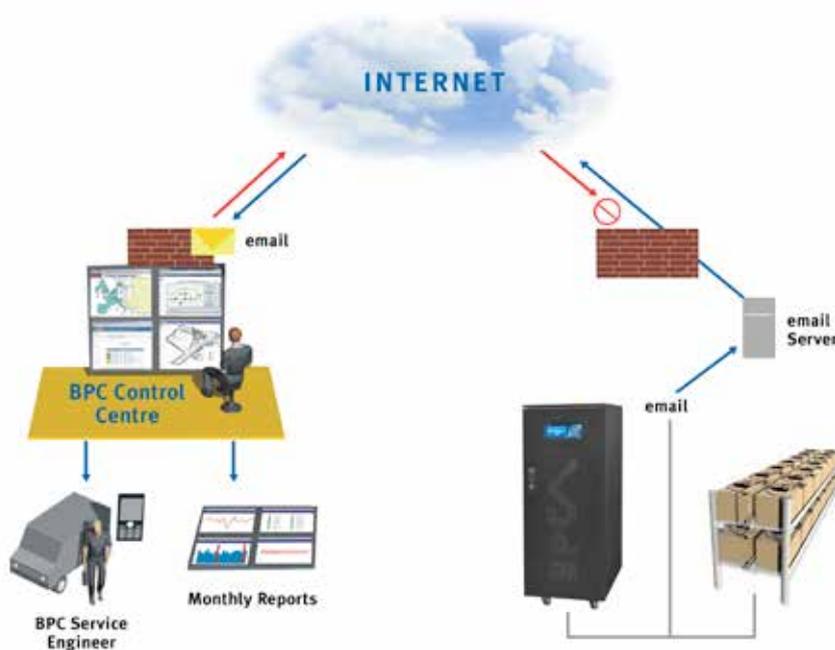


Various parameters can be measured and analysed over user set time periods.



Virtual Service Site Viewer.

Virtual Service monitoring a rack of batteries using the BPC BACS system. This image shows an alarm on high temperature batteries.



Networking Intelligent Power Management

SIMPLE NETWORKING MANAGEMENT PROTOCOL (SNMP) CARDS AND ADAPTORS

SNMP cards are used for the management of UPS systems via a computer or local network. With a web based programme built into the SNMP, simply connecting the card to a network via its LAN port allows for easy monitoring of the UPS. SNMP cards can be used not only to monitor UPS parameters, but also allow user controlled testing, email alerts and sending of remote console commands to client systems to initiate automatic shutdowns. SNMP cards can be fitted internally on some UPS models or externally fitted via the UPS RS232 port.



ENVIRONMENTAL MONITORING

BPC can provide enhanced environmental monitoring using the NetFeeler 2 alongside your SNMP card. It can detect variations in temperature, humidity and presence of water as standard, with optional add-ons as listed below:

- **Wireless smoke sensor**
- **Wireless gas sensor**
- **Wireless door / window sensor**
- **Wireless glass-break sensor**
- **Wireless infrared sensor**
- **Wireless PIR sensor**
- **Flashlight**

When an event occurs, the NetFeeler 2 alarm will buzz and can be configured to simultaneously send an email through the SNMP card. When connected to an SNMP Card it can provide environmental status feedback via the internet using a standard browser and can support up to 7 individual ID/sensors.

PORT MULTIPLEXER

Allows two devices to be connected to a single RS232 serial communication port on a UPS. It can be used when a separate Intelligent Power Management interface and Remote Monitoring Panel are both required.

MODBUS ADAPTORS

BPC have a wide range of MODBUS/BUS adaptors that support RS485 and TCP/IP connectivity to ensure the device provides continuous, reliable and accurate network monitoring of the UPS system through a Building Management System (BMS).

RS485 CONVERTER

Using a BPC RSC 24 you are able to convert the RS232 interface to RS485. Should be used if the distance between UPS and its receiving interface exceeds 20 metres.

CUSTOMISED INTERFACES

With a Multi-interface slot, various communication combinations are selectable including additional RS232, Relay Cards, USB, Dry-Contact Relays and customised packages.

GSM MODEM

When connected to advanced SNMP cards the GSM MODEM can send SMS alerts via a telephone sim card.



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, Gibraltar, 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.



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