PowerPro HP UPS

High Performance advanced power protection

BPC

The British Power Conversion Company

PowerPro HP – *Professional high performance protection*

Designed to give you a UPS with all the flexibility and adaptability you need. These modern, compact UPS have the enviable reputation for consistent reliability, ease of installation and maintenance making it ideal for sophisticated computer networks, as well as Telecommunication, Call Centre, Internet, Defence, Medical and Process Control equipment.

In today's environment UPS systems must satisfy the most challenging applications and the versatile PowerPro HP Range has all the answers with a wide choice of power ratings and standby autonomies in compact and stylish cabinets.

PowerPro HP – 100 Series

The HP 100 Series has single phase input and output ratings ranging from 1kVA to 40kVA. Some models have internal battery options but for longer runtimes external batteries can be added with matching battery cabinets. Compact systems incorporating many intelligent factors to satisfy the most challenging mission critical applications.

PowerPro HP – 200 Series

The HP 200 series has three phase input and single phase output ratings ranging from 6kVA to 60kVA. Suitable for enterprise applications requiring critical protection for server rooms and the digital network economy.

PowerPro HP – 300 Series

The HP 300 series has a three phase input and output design. All models can be supplied with matching battery cabinets. Primarily intended for the information technology market but capable of providing for the growing demands of data and mobile switching centres the PowerPro HP has been extended up to 250kVA in single modules.

The UPS that has the ability to grow with you

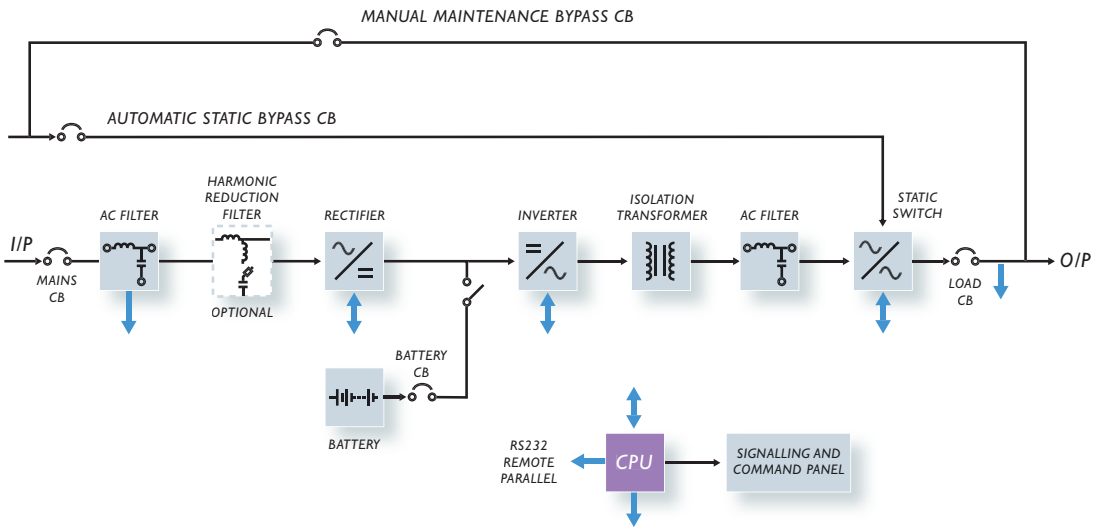
All PowerPro HP models have parallelling capability that can give you absolute flexibility for customer planning of the future power requirements or greater system security. Power upgrades or N + 1 redundant configuration can be achieved up to a total capacity of 1500kVA.

PowerPro HP UPS

High Performance advanced power protection

PowerPro HP uses a new concept known as Adaptive Control

This allows the UPS multi-standard capability to operate as both an on-line double conversion and line interactive UPS.



On-Line mode

combines intelligent double conversion technology with an isolation transformer to provide additional smoothing and ensures continuity of supply to the load under the severest conditions imaginable. PowerPro HP utilises an advanced six pulse rectifier that automatically supplies the inverter with filtered DC power and simultaneously recharges the battery following an interruption of the mains supply.

The latest high frequency IGBT (Insulated Gate Bi-polar Transistors) inverter technology converts DC power with high levels of efficiency into the pure sinewave AC power used to support the load. The highest quality of output under varying load conditions is assured by sophisticated microprocessor based control circuits.

Economy mode (factory option)

can be utilised when the mains is relatively stable. The intelligent microprocessor based control system takes advantage of the low energy consumption characteristics offered by its interactive ECONOMY-MODE configuration. PowerPro HP switches instantaneously to on-line operation when the mains fluctuates outside pre-set parameters to provide perfectly stable output and total protection not only from more subtle problems such as low frequency electrical noise and frequency instability.

PowerPro HP's multi-standard capability allows selection of either On-Line Mode or Economy Mode to be made from the control panel.

The British Power Conversion Company

PowerPro HP 100 Series – Single Phase Input and Output

Ranging from 1kVA to 40kVA

An ultra compact range of on-line double conversion High Performance UPS utilising the very latest innovation in PWM and IGBT technology producing increased quality of supply and reliable performance.

PowerPro HP UPS Systems provide complete protection from all power problems such as mains failure, sags, spikes, surges, electrical noise, frequency and voltage stabilisation.

This highly integrated and compact range is mounted on castors for ease of handling. This permits installation in a restricted space while still allowing access for maintenance and significantly reducing installation costs. Combined with innovative design of the transformers and very low noise, high volume fans has resulted in an extremely quiet range of units ideally suited for office environments and noise sensitive environments.

Features:

- True double conversion technology
- Galvanic isolation transformer at the inverter stage
- High reliability with low maintenance
- Pure sine wave output
- High efficiency up to 90%
- Intelligent battery monitoring to maximise service life
- Automatic static bypass switch providing no-break transfer
- Capability for parallel redundant operation if required
- LCD panel providing real time operational status
- Recorded power history logs
- RS232 and dry contacts for communication and remote monitoring
- Input / output customisation is available

PowerPro HP UPS

High Performance advanced power protection

PowerPro HP 200 Series – Three Phase Input and Single Phase Output

Ranging from 6kVA to 60kVA

An advanced flexible range of on-line double conversion High Performance UPS with all the benefits and features of the HP 100 Series.

Designed to supply tightly regulated and controlled sinewave power irrespective of mains supply and to a variety of critical loads. This makes the HP 200 Series ideal for protecting all types of applications ranging from clean environment network server room systems through to the most rugged industrial installations.

HP 200 models have three phase rectifiers with "Soft Start" control incorporating thyristor controlled bridge circuitry to limit inrush current and prevent overloading marginally rated mains supplies. These models provide an **excellent** solution for higher power, single phase loads and can also reduce the need for extensive re-cabling during installation.

PowerPro HP UPS are simple and easy to install with all the input and output terminals conveniently positioned with front access, ensuring ease of positioning, trouble free installation and maintenance. Low MTBF (mean time between failure) and low MTTR (mean time to repair) are both fundamental to the PowerPro HP design. The inclusion of an integral manual bypass switch enables maintenance and service to be carried out without load disruption, resulting in extremely low maintenance costs.

200 Series

Simplicity of Operation

PowerPro HP's advanced microprocessor control system provides for automatic control with minimum user intervention. A simple but concise mimic diagram provides HP100 & HP200 models an immediate indication of the system status with in depth information available via a robust membrane Keypad and 2 line liquid crystal display.

The British Power Conversion Company

PowerPro HP 300 Series – Three Phase Input and Output

A sophisticated and extended range of on-line double conversion High Performance UPS with advanced design concepts that have resulted in a very compact, highly reliable machine with low energy density and low audible noise figures providing a cost effective solution for all large installations.

Powerful Triple Microprocessor Control and Monitoring Systems

Ensures peace of mind by managing and monitoring all the critical rectifier, inverter and static switch functions and collating operating data for archiving and display. During mains failure it analyses the battery discharge characteristics and provides accurate information on the remaining runtime.

Rectifier 'Soft Start' Control

Incorporates thyristor controlled bridge circuitry to limit inrush current and prevent overloading marginally rated mains supplies. Reduced harmonic Rectifier Clean Version options are available for your installations where lower levels of reflected harmonic currents or improved Power Factor Correction are essential.

Intelligent Battery Monitoring to Maximise Service Life

Genuine advanced battery care is the key to reducing cost of ownership and maximum service life. PowerPro HP's 'Healthy Battery' design philosophy provides you with a two stage charging process and then an Advanced Battery Management system which can determine the optimum battery float voltage from intelligent microprocessor control on the basis of actual operating conditions.

Automatic and Manual Static Bypass Switch

Allows for instantaneous transfer to mains or reserve supply if the power demand of the load exceeds the overload level of the inverter or a short circuit is experienced. A manual bypass facility is also provided for routine maintenance and battery replacement.

PowerPro HP UPS

High Performance advanced power protection

Sophisticated Control and Monitoring Panel

Control and management of the entire system is achieved at the touch of a button. PowerPro HP Control Logic manages all the data concerned with running the UPS and provides real time operational status to the mimic diagram and 2 line liquid crystal display. Vital operating information is available on demand via the membrane keypad and in the event of an alarm condition a description is automatically displayed.

Robust Transistorised Inverter

Utilising the very latest innovation in IGBT technology PowerPro HP is able to guarantee increased quality of supply and reliable performance. The high operating frequency of the inverter has led to a drastic reduction in the PowerPro UPS size, making is easier to handle and quieter, with a consequent improvement in energy efficiency and cost savings. All PowerPro HP UPS systems provide galvanic isolation at the inverter stage to maximise safety and reliability and ensure absolute compatibility with any type of load.

High Reliability with Low Maintenance

Careful attention to assembly detail and technical design assures great simplicity with a consequent increase in reliability. With a mean time between failure (MTBF) of 200,000 hours the PowerPro HP is an established market leader and with easy access to internal system components a mean time to repair (MTTR) of just 30 minutes can be achieved.

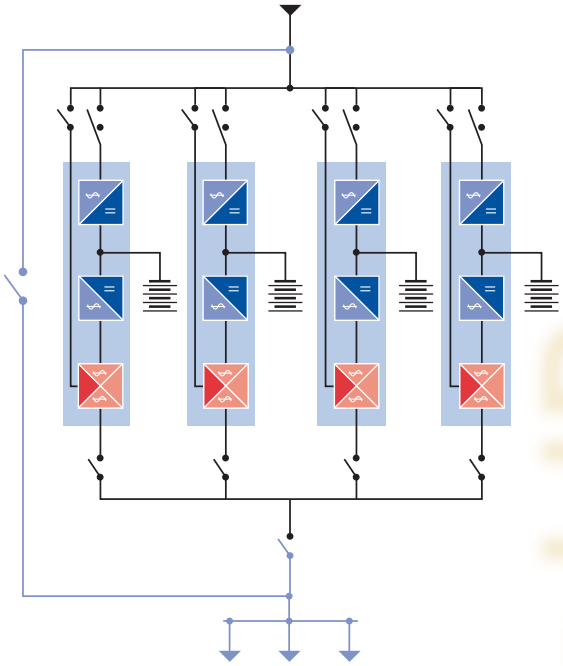
Ease of installation

Input and output terminals are conveniently positioned so that all PowerPro HP UPS are simple and easy to install. Cable entry is via the conveniently situated aperture in the base of the cabinet with cable retaining brackets.

300 Series

PowerPro HP Range – Optional accessories

BPC UPS in parallel – One step beyond redundancy



The BPC philosophy is both simple and elegant. UPS outputs are connected directly to the users distribution system, eliminating the vulnerable centralised static switch and control circuits. PowerPro HP can grow with you and give you complete flexibility whether you are planning to improve system security or increase your power requirements. Redundant, symmetric and hot standby modes are all selected from the LCD control panel.

Rectifier Clean Version's

Defining new standards in input power factor correction and reduction of harmonic currents. Both 12 pulse and 18 pulse clean version rectifiers are available offering improved power factor correction up to 0.96 and reducing total harmonic distortion to less then 5%.

Regenerative Load Option

Unique to PowerPro HP UPS this innovative design can cope with the most arduous types of high power motor loads such as lifts or high speed machinery that can feedback current into the UPS under over-run conditions. This current can seriously interfere with the operation of normal UPS leading to shutdown or even damage. The PowerPro HP Regenerative load option safely suppresses this regenerative current and allows these difficult loads to be supported without problem.

Remote Digital Signalling for the UPS

All models can be connected to a remote monitoring panel (RMP) that allows the possibility to monitor different parameters from the control panel on the UPS. More than one RMP can be connected together in cascade for monitoring your UPS system from several different locations at the same time.

Further UPS System options

These include input and bypass galvanic isolation transformers, bypass to load configurations, input / output customisation, frequency converters, additional relay contact board allows an additional 7 relays to be provided, earth leakage monitor, RSC 24 model enables the RS232 interface to be converted into RS485 for connecting RMP to the UPS over 20 meter distances, customised enclosures with higher IP protection ratings, etc.

PowerProHP

PowerPro HP UPS

High Performance advanced power protection

Matching external battery cabinets and open racks

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

Installation and support solutions

The BPC Service department deliver and install complete UPS systems in even the most demanding environments. Our commitment is to achieve the highest levels of customer satisfaction by providing real solutions that work reliably and meet your specific needs. To ensure optimum customer care and system performance we go further by offering a total solutions approach from pre-sales advice and planning right through to installation and commissioning if required. This commitment to customer care does not stop here, all PowerPro HP products are backed by a superb after sales service providing comprehensive technical support and spare parts.

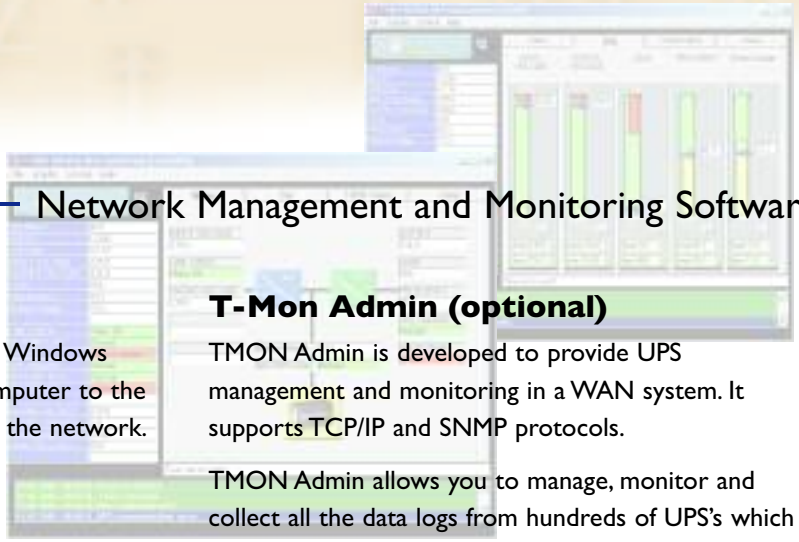
"Virtual Service" five years free monitoring and health checks

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. Virtual Service is a unique and totally free service from BPC providing an on demand monitoring service of the PowerPro HP UPS. All that is required is an internet connection or a suitable modem/external phone line and BPC's Technical Support desk can conduct a remote "service visit" to check the current status of the UPS equipment.

Virtual Service is available to all BPC customers and includes a "free" automatic three monthly health check. Customers with HP service plan packages enjoy an enhanced Virtual Service program with frequent full status reports on the UPS and continuing examination of all the current site operating conditions to ensure complete "peace of mind".

The British Power Conversion Company

PowerPro HP Range – Network Management and Monitoring Software



T-Mon Server

Supports Windows 95, Windows 98, XP, NT and Windows 2000 plus LINUX. TMON Server connects a computer to the UPS and collects data which it communicates to the network.

T-Mon SerCon

SerCon program receives the data from TMON Server and manages the shutdown event on the network clients computers. In addition to the normal "SerCon" automatic shutdown program TMON also provides source code so that a programmer can compile their own requirements.

T-Mon Admin (optional)

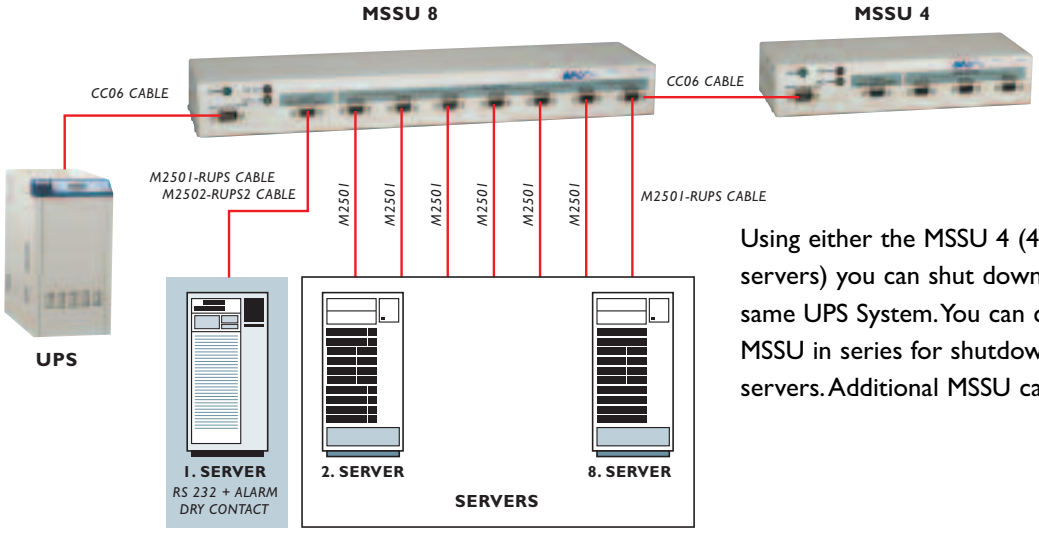
TMON Admin is developed to provide UPS management and monitoring in a WAN system. It supports TCP/IP and SNMP protocols.

TMON Admin allows you to manage, monitor and collect all the data logs from hundreds of UPS's which are connected to the WAN system.

TMON Admin supports multi SNMP agents such as Megatec SNMP, NetAgent II and USHA. It is possible to implant OEM SNMP agents MIB's as a customer request.

See TMON UPS Manager data sheet for more detailed information.

MSSU – Multiple Server Shutdown Units



Using either the MSSU 4 (4 servers) or MSSU 8 (8 servers) you can shut down servers through the same UPS System. You can connect more than one MSSU in series for shutdown of multiple number of servers. Additional MSSU can be added.

SNMP Modules

Using the SNMP module your PowerPro HP UPS acts as a network device, this allows it to monitor more than one UPS connected to your network through SNMPVIEW software supplied with the module, or you can monitor the UPS through an Internet browser. Also allows the possibility to shutdown the servers or users with Clientmate software that communicates with SNMP module.

PowerPro HP

100 Series

Technical data

Series Model	HP102	HP103	HP106	HP107	HP110	HP115	HP120	HP130	HP140
Power (kVA)	2	3	6	7.5	10	15	20	30	40
Power (kW)	1.4	2.1	4.2	5.25	7	10.5	14	21	28
Input									
Voltage	230VAC Single Phase								
Tolerance	+/-15%								
By-pass Voltage	230Vac +/-10%								
Maximum Current absorbed from mains	13A	18A	31A	37A	48A	70A	96A	140A	192A
Input frequency	50Hz +/-5%								
EMI	EN 50091-2 class A								
Output									
Wave form	True Sine wave								
Nominal Voltage	230Vac								
Voltage Stability (Balanced Load)	+/-1%								
Voltage Stability (Unbalanced Load)	N/A								
Voltage Dynamic Step Load (0 to 100% to 0)	+/-5%								
Frequency	50Hz								
Frequency Stability	Line synchronised +/-1% Free running +/- 0.2%								
On Line Mode efficiency at full load	>88%								
Economy Mode efficiency at full load	>98%								
Crest factor	3:1								
Over load protection	100% – 125% load for 10min. 125% – 150% load for 1min. >150% load by-pass								
Total Harmonic Distortion (THD)	>3%								
Short Circuit Protection	Electronic short circuit protection								
Batteries									
Type	Sealed Lead Acid Maintenance Free								
Number of 12V Blocks	14	14	20	20	20	20	26	26	26
Float charging voltage	189Vdc	189Vdc	270Vdc	270Vdc	270Vdc	270Vdc	351Vdc	351Vdc	351Vdc
End of discharge voltage	140Vdc	140Vdc	200Vdc	200Vdc	200Vdc	200Vdc	260Vdc	260Vdc	260Vdc
Equalising Boost Charge voltage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Battery cabinet	Internal					External			
Battery protection	Automatic circuit breaker								
Battery test	Optional								
General									
Protection degree	IP21								
Colour	RAL 7035 (other colour on request)								
Communications	Dry contacts plus RS232								
Software	T-Mon standard, SNMP module optional								
Temperature range	0°C to 40°C								
Altitude	<1000m (above sea level)								
Relative humidity (non condensed)	90% max								
Acoustic noise at 1m distance	<42 dbA	<42 dbA	<45 dbA	<45 dbA	<45 dbA	<45 dbA	<45 dbA	<45 dbA	<45 dbA
Heat dissipation at nominal load (kW)	0.23	0.34	0.63	0.78	1.04	1.57	2.09	3.14	4.18
Dimensions (mm) wxdxh	265x560x540	265x560x540	265x740x710	265x740x710	265x740x710	265x740x710	485x675x1145	485x675x1145	485x675x1145
Weight without batteries (kgs)	50	55	74	77	91	112	250	300	460

PowerPro HP
200 Series
Technical data

PowerPro HP
300 Series
Technical data

HP206	HP207	HP210	HP215	HP220	HP230	HP240	HP260	HP305	HP310	HP315	HP320	HP330
6	7.5	10	15	20	30	40	60	5	10	15	20	30
4.2	5.25	7	10.5	14	21	28	42	4	8	12	16	24
230/400VAC Three Phase +N												
+/-15%												
230Vac +/-10%												
3 x 12A	3 x 17A	3 x 17A	3 x 25A	3 x 25A	3 x 50A	3 x 70A	3 x 100A	3 x 9A	3 x 17A	3 x 24A	3 x 31A	3 x 45A
50Hz +/-5%												
EN 50091-2 class A												
True Sine wave												
230Vac												
+/-1%												
N/A												
+/-5%												
50Hz												
Line synchronised +/-1%												
Free running +/- 0.2%												
>90%												
>98%												
3:1												
100% – 125% load for 10min. 125% – 150% load for 1min. >150% load by-pass												
>3%												
Electronic short circuit protection												
Sealed Lead Acid Maintenance Free												
20	20	20	26	26	26	26	26	30	30	30	30	30
270V	270V	270V	351Vdc	351Vdc	351Vdc	351Vdc	351Vdc	405Vdc	405Vdc	405Vdc	405Vdc	405Vdc
200V	200V	200V	260Vdc	260Vdc	260Vdc	260Vdc	260Vdc	300Vdc	300Vdc	300Vdc	300Vdc	300Vdc
280Vdc	280Vdc	280Vdc	365Vdc	365Vdc	365Vdc	365Vdc	365Vdc	422Vdc	422Vdc	422Vdc	422Vdc	422Vdc
Internal		External		Internal		External						
Automatic circuit breaker												
Optional				Automatic every 72 hours								
IP21												
RAL 7035 (other colour on request)												
Dry contacts plus RS232												
T-Mon standard, SNMP module optional												
0°C to 40°C												
<1000m (above sea level)												
90% max												
<42 dbA	<42 dbA	<55 dbA	<55 dbA	<55 dbA	<55 dbA	<55 dbA	<55 dbA	<56 dbA	<56 dbA	<56 dbA	<56 dbA	<56 dbA
0.62	0.78	1.04	1.57	2.09	3.14	4.18	6.3	0.4	0.8	1.18	1.6	1.8
265x740x710	265x740x710	265x741x710	265x742x710	550x855x1360	550x855x1360	550x855x1360	550x855x1360	485x675x1145	485x675x1145	485x675x1145	485x675x1145	485x675x11
106	110	160	190	277	300	460	540	225	235	250	270	322

HP340	HP360	HP380	HP3100	HP3120	HP3150	HP3200	HP3250	Series Model
40	60	80	100	120	150	200	250	Power (kVA)
32	48	64	80	96	120	160	200	Power (kW)
								Input
230/400Vac Three Phase, 4 wires, +ground								Voltage
+/-15%								Tolerance
230/400Vac Three Phase +/-10%								By-pass Voltage
3 x 58A	3 x 85A	3 x 110A	3 x 138A	3 x 165A	3 x 220A	3 x 290A	3 x 365A	Maximum Current absorbed from mains
50Hz +/-5%								Input frequency
EN 50091-2 class A								EMI
								Output
True Sine wave								Wave form
230Vac								Nominal Voltage
+/-1%								**Voltage Stability** (Balanced Load)
N/A								**Voltage Stability** (Unbalanced Load)
+/-5%								**Voltage Dynamic Step Load** (0 to 100% to 0)
50Hz								Frequency
Line synchronised +/-1% Free running +/- 0.2%								Frequency Stability
>90%								On Line Mode efficiency at full load
>98%								Economy Mode efficiency at full load
3:1								Crest factor
100% – 125% load for 10min. 125% – 150% load for 1min. >150% load by-pass								Over load protection
>3%								Total Harmonic Distortion (THD)
Electronic short circuit protection								Short Circuit Protection
								Batteries
Sealed Lead Acid Maintenance Free								Type
30	30	30	30	30	30	30	30	Number of 12V Blocks
405Vdc	405Vdc	405Vdc	405Vdc	405Vdc	405Vdc	405Vdc	405Vdc	Float charging voltage
300Vdc	300Vdc	300Vdc	300Vdc	300Vdc	300Vdc	300Vdc	300Vdc	End of discharge voltage
422Vdc	422Vdc	422Vdc	422Vdc	422Vdc	422Vdc	422Vdc	422Vdc	Equalising Boost Charge voltage
External								Battery cabinet
Automatic circuit breaker								Battery protection
Automatic battery test once a week								Battery test
								General
IP21								Protection degree
RAL 7035 (other colour on request)								Colour
Dry contacts plus RS232								Communications
T-Mon standard, SNMP module optional								Software
0°C to 40°C								Temperature range
<1000m (above sea level)								Altitude
90% max								Relative humidity (non condensed)
<56 dbA	<60 dbA	<60 dbA	<60 dbA	<65 dbA	<65 dbA	<65 dbA	<65 dbA	Acoustic noise at 1m distance
2.4	3.6	4.8	6	7.2	9	12	15	Heat dissipation at nominal load (kW)
570x820x1450	570x820x1450	710x800x1400	1100x800x1600	1100x800x1600	1100x800x1600	1100x800x1600	1100x800x1600	Dimensions (mm) wxdxh
484	562	620	710	810	920	1150	1380	Weight without batteries (kgs)

BPC has an extensive range of products to meet all your power protection demands

Small Home/Office UPS	**PowerOffice**
Line Interactive UPS	**PowerPal** **PowerStar** **PowerPrem**
Single Phase Double Conversion UPS	**PowerGem** **PowerGem Plus** **PowerOn** **PowerPro** HP 100 Series
Three Phase Double Conversion UPS	**PowerPro** RM & RT Series **PowerPro** Plus Transformerless Series **PowerPro** HP 200 Series **PowerPro** HP 300 Series
Emergency Lighting Systems	**PowerLite** EL Series
Industrial Applications	**PowerPro Frequency Converters** **PowerMaster SVR Electronic Stabilisers** **PowerMaster AVR Servo Stabilisers**
DC Solutions	**Rectifier and SMPS Modules**
Rackmount Cabinets	**PowerRack 19" Enclosures**
Options & Accessories	**Maintenance Bypass Switches** **Battery Cabinets & Enclosures** **Remote Alarm Panels**
Software & Communication	**PowerCheck** **PowerSmart 210U** **RUPS** **T-Mon** **SafeNet**
Batteries	**PowerStor PS** – Sealed Lead Acid 5 year design life **PowerStor PSL** – Sealed Lead Acid 10 year design life **PowerStor PSLIFR** – (2 Volt blocks) Sealed Lead Acid 15 year design life **PowerStor Gel and Cyclic options** **PowerStor Nickel Cadmium Vented Cells**
Generators	**Wide range of diesel generators**

The British Power Conversion Company

BPC Limited

BPC House
Romsey Industrial Estate
Greatbridge Road
Romsey
Hampshire SO51 0HR
United Kingdom

Tel: +44 (0)1794 521200
Fax: +44 (0)1794 521400
e-mail: sales@bpc-ups.com
www.bpc-ups.com