

G U A R D I N G Y O U R B U S I N E S S

THE AUSTRALIAN UPS

Phone: 1300 305 393
www.powershield.com.au



DESIGNED BY AUSTRALIANS FOR AUSTRALIAN CONDITIONS

PowerShield®
A small graphic of a knight in armor holding a lance and shield, which is part of the PowerShield brand logo.

2013-14
POWERSHIELD
PRODUCT GUIDE

As the largest independent UPS Australian company designing solely for Australian conditions, Power Shield takes great pride that its applications have saved Australian industry millions in lost production and revenue caused by power disturbances. Our directors Ronny Treves and Malcolm Levin began with the modest survival goal of selling just one UPS a day in 2000. Today, Power Shield sells hundreds of highly sophisticated power protection systems each week. By providing clean and uninterrupted power which serves the sustainability and prosperity of Australian business and the wider community, Power Shield is now well into a dynamic growth cycle. We are continuously expanding our market, creating more Australian jobs through direct and spin off employment.

To cater for this expansion, the management team is refining and building new procedures to streamline operations. Responsive to change, Power Shield has adjusted its business model to also cater to target larger applications that now include large manufacturing, mining and data centres. Management is in the process of launching a dedicated division to actively grow business in these areas. Every project in this arena has its own unique requirements. Our strengths in product design along with the ability to customise and configure product in a personalised and responsive way has positioned us perfectly to serve the changing needs of a broad range of business and industry sectors.



Malcolm Levin
Marketing Director



Ronny Treves
Technical Director

Power Shield is an Australian company that understands Australia's power problems. Since commencing business, we have seen power problems damage valuable equipment and paralyse operations. Over the past decade Power Shield has delivered UPS solutions to thousands of business, industry, medical and military applications. Focused on providing our customers with the cleanest and most reliable quality power, PowerShield® is uncompromising in developing the best possible UPS technology. This, coupled with our relentless customer care, has catapulted Power Shield to become the best choice for protecting your electrical power supply. Our customers are always our main focus and always will be, as we continue to provide the same standard of service into the future. It is part of our Mission Statement and our company philosophy.

Thank you for supporting your Australian UPS company.

PowerShield® – Designed by Australians for Australian Conditions





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the australian company



Unlike our internationally based competitors, Power Shield is a fully Australian owned and operated company. Furthermore, Power Shield specialises in and develops products for Australian conditions. Our goal is to provide the most reliable and economical protection against electrical disturbances for your valuable equipment.

With warehousing in both WA and NSW, Power Shield is strategically placed to service the entire country as well as our island neighbours.

Power Shield is focused on customer service and the management team seeks constant and never ending improvement.

PowerShield® is a well known and trusted brand throughout Australia, engineering solutions for many projects first hand. Thousands of customers have given us top rated reviews on our service and products. Our customer list is diverse and includes radio stations, government, defence, health and medical departments, mines, process control operations, point of sale, system integrators and server room applications to name a few.

Power Shield supports customers in many ways including:

- Priority stock allocations
- Special bid pricing
- Local representatives
- Training and support
- Access to any relevant upgrades and information
- Manufactured for Australian conditions

product development

Gamatronic Power+, SA, RM, 19" and Mega Power+

Power Shield is pleased to announce an exclusive distributor agreement with Gamatronic, manufacturers of the highest quality modular UPS in the world. Once again, true to our mission statement of providing the best solutions for Australian conditions, engineers could not get past the Power Plus Family of UPSs after being asked to distribute Gamatronic goods in 2009. All of the elements of true ingenuity were evident in this range.

This modular system boasts the highest power density in the world putting a 250,000 VA in a footprint of 66 x 67 centimetres. This allows for more real estate available in company data centres for other critical servers. Furthermore, upgrades do not require extra footprints as the modular systems are expandable on their own footprint. This leaves room for expansion as well as redundancy. With modules as light as 9 kilos (in the case of the Power+), Mean Time to Repair (MTTR) is very low. A touch-sensitive screen that includes an icon driven menu and a digital mimic panel makes navigating around these systems a simple exercise. The efficiency of 96%, coupled with its modular architecture means the Mega Power plus can produce electricity and air conditioning savings enough to pay for itself in less than two years.

The Gamatronic Three Phase Range starts with the SA range, 10 to 40 kVA stand alone UPSs all within the same ultra small footprint (580 x 480 x 660)mm. Then the modularity units take precedence with the Power+ 19" (10-20kVA), the Power+ and the Power+ RM, both configurable from 10 to 100 kVA. The Mega Power+ the largest of them all being configurable to 500kVA.

Centurion RT

In 2011 PowerShield® introduced the Commander RT which took the industry by storm. The innovative design with both programmable Australian outlets and User replaceable hot-swappable batteries became the favourite in many server and communications rooms around the country. This year, our engineers have taken the same form factor of the Line Interactive Commander model and applied it to our True Online Double Conversion range resulting in the Centurion RT.

Our newest RT addition boasts a 0.9 power factor and an ECO mode saving energy costs when the inverter doesn't have to be permanently engaged. Like its line interactive brother, the Centurion RT's backup time is expandable by adding additional battery banks. When quicker backup time is required or there are many battery banks to recharge, the Centurion RT range includes long run models which with their larger 6 amp chargers. True to PowerShield®'s standards, the surge protection rating is the highest in its class (984 Joules / 22000 Amps).



Since the launch of this range in late 2012, the Centurion RT has proven itself to be reliable, adaptable and economical. It has fast become a favourite in critical applications throughout Australia. Its versatile form factor is ideal for companies who can move them throughout the offices and utilizing them in data racks or standalone applications.

Centurion Dual

Australia works on a voltage of 240. What are the options for a company or a ship that needs Australian power for equipment that runs on voltages of 110Vac? Rather than using a step down transformer with a UPS, PowerShield® offers the Centurion Dual. Dual because the range accepts both 110 and 240 voltages depending on their feed. This means that equipment that needs to be transported around the world will be best protected by a PowerShield® Dual to ensure that the equipment is fed by the correct voltage at all times. There are two model types within the Dual range distinguished by their output voltages. One is set at 240 and one at 110. The user can choose which model best suits their configurations based on the equipment they are trying to protect.

This True Online Double Conversion UPS has an isolation transformer to ensure complete galvanic isolation which is essential in harsh environments especially when there is sensitive equipment to protect. The input power factor correction is a very efficient 0.99. Like its Centurion cousins, it also has energy saving ECO mode as a slot for external management such as an AS400 card or an SNMP card with environmental monitoring.

quality assurance

Power Shield employs a range of Quality Assurance (QA) procedures to ensure that the highest standards of product and service excellence are maintained. Our Product Managers control the entire manufacturing process, overseeing the QA program from sourcing components through to final testing. Any issues can be quickly identified and the appropriate remedial actions taken.

This attention to detail and high level of communication between the engineering, manufacturing and sales teams within Power Shield has been a significant factor in the quality and consistency of the product. This in turn has lead to wide customer satisfaction.

At the warehouse level, further spot checks are performed on all incoming stock. Random UPSs are pulled from each pallet and are put through our comprehensive test procedures. All Three Phase UPSs are pre-commissioned before delivery.

our people

Our people are the key to Power Shield's success. Power Shield has been fortunate enough to attract, employ and continue to retain the employment of only the best people. We have key personnel for each of the following roles:

- Customer relationship management
- Technical assistance
- Sales and marketing
- Training
- Warehousing and Logistics
- Research and development
- Repairs and maintenance
- Installation and commissioning

The Power Shield Sales staff prides itself on providing the right solution the first time. We take the time to listen sincerely to our customers, to understand their needs, and then always endeavour to provide a true and relative solution. Our customers can enjoy the peace of mind in knowing that our solutions will always be focused on their needs, no more and no less.

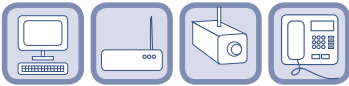


The sophisticated CompuGuard® UPS has been designed by our engineers specifically to protect today's modern computer. This low cost, slimline UPS has three Australian sockets, two for battery backup and one for surge protection. This UPS has the smallest footprint in the PowerShield® range but still packs a lot of power due to an increased 9Amp hour battery in every unit. It is designed to support computer power supplies that have either Passive or Active Power Factor Corrected power supplies. Furthermore it has been designed to protect these Power Factor Corrected power supply units at full load rating and at all phase angles.

applications include:

- small office and home office equipment
- stand alone personal computers
- work stations
- small peripherals

CompuGuard®



features

- Designed specifically to protect today's modern computer
- Unique inverter design allows it to support the most severe Active Power Factor Corrected power supply units
- Compact size
- Sleek tower design can stand vertically next to your computer
- Low profile design lies flat(horizontal) and you can even put your monitor on top
- Flush wall design for mounting to wall or under desk
- Excellent microprocessor control guarantees high reliability
- Auto restart while AC is recovering
- Cold start function
- Full protection: Surge, Discharge, overcharge, short circuit, and thermal protection

COMPUGUARD®	
Model	PSCG650
Capacity	650VA / 390W Standby
INPUT	
Voltage	240Vac (Nominal)
Acceptable Voltage Range	180 - 270Vac
Frequency	50Hz or 60Hz (Auto sensing)
OUTPUT	
Output Voltage	240Vac \pm 10%
Frequency Range (Batt. Mode)	50Hz or 60Hz \pm 1Hz
Transfer Time	6 ms (Typical)
Waveform (Batt. Mode)	Simulated sine wave
Australian Outlets - UPS Protection	2
Australian Outlets - Surge Protection	1
BATTERY	
Capacity	12V*9AH
Backup Time	25 min. (one-PC load @100W)
Typical Recharge Time	8 hours recover to 90% capacity
PROTECTION	
Full Protection	Overcharge, discharge, short circuit, and thermal protection
Surge Protection	156 Joules / 4500Amps
COMMUNICATIONS & MANAGEMENT	
Interface	USB Interface
Software	PowerShield® NetGuard® software - supports Windows®, Linux, Unix and Mac
LED Alarm	AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault
Audible Alarm	Battery Mode, Low Battery (Batt. Mode), Fault
PHYSICAL	
Dimensions (D x W x H) vertical	(232 x 83 x 200)mm
Net Weight	3.6kg
OPERATING ENVIRONMENT	
Temperature	0 - 40°C
Humidity	0-90% (non-condensing)
Noise Level	<5dB (No Fan)
COMPLIANCE	
Safety	EN62040 - 1 - 1 2003, IEC60950 - 1:2001
EMC	EN62040 - 2 2006
RoHS	Directive 2011/65/EU

* Product not intended for servers.
* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

TYPICAL RUN TIMES

Small telephone with 4 handsets	60 minutes
Medium telephone with 16 hand sets	23 minutes
DVR and 4 cameras	62 minutes
DVR and 16 cameras	37 minutes
Computer with 17" LCD monitor	17 minutes
Computer with 24" LCD monitor	12 minutes



The SafeGuard UPS provides a buffer between your equipment and inconsistent mains power supply. This cost effective, compact device constantly stands guard beside your sensitive equipment. This UPS is one of the only powerboard style with AVR (Automatic Voltage Regulation). Anytime a power fluctuation occurs, this UPS will buck or boost the power within a ten percent variance of 240Vac. The SafeGuard provides three outlets of surge protected battery backup to keep essential systems running through power outages. It also provides three surge protected sockets for non-essential equipment. The SafeGuard allows for User-replaceable batteries.

applications include:

- small office and home office equipment
- stand alone personal computers
- work stations
- telephone systems



SafeGuard 750



features

- Surge Protection, Best in its Class
- Automatic Voltage Regulation (Buck and Boost)
- Light-weight compact and elegantly designed
- Intelligent microprocessor control
- Monitoring and shutdown software included
- Fax/modem/LAN surge suppression port
- Overload protection and alarm
- Output short circuit protection
- Start on battery function (cold start)
- USB communication
- Easy user replaceable battery
- Australian/New Zealand approved sockets
- Wall mountable
- Fast charging - 90% in 4 hours

SAFEGUARD	
Model	PSG750
Capacity	750VA / 450W Line interactive
INPUT	
Voltage	240Vac (Nominal)
Voltage range	177 to 290Vac
Frequency	50Hz or 60Hz (Auto sensing)
OUTPUT	
Output Voltage	240Vac \pm 10%
Frequency range (Batt. Mode)	50Hz or 60Hz \pm 1Hz
Transfer time	6 msec (Typical)
Wave Form (Batt. Mode)	Simulated Sine Wave
Australian Outlets	3 (UPS and Surge Protection)
Australian Outlets	3 (Full Time Surge Protection)
BATTERY	
Capacity	12V*9AH
Backup Time	25 min (1 PC load at 100W)
Typical Recharge Time	8 hours recover to 90% capacity
PROTECTION	
Full protection	Overcharge, discharge, short circuit and thermal protection
Surge protection	468Joules /11000Amps Best in its class
Data protection	Tel/modem/LAN, RJ45 connector
COMMUNICATIONS & MANAGEMENT	
Interface	USB interface
Software	PowerShield® NetGuard® supports Windows, Linux, Unix & Mac
LED Alarm	AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault
Audible Alarm	Battery Mode, Low Battery (Batt. Mode), Fault
PHYSICAL	
Dimensions (D x W x H)	(199 x 292 x 91) mm
Weight	7kg
OPERATING ENVIRONMENTS	
Temperature	0 - 40°C
Humidity	0-90% (RH Non-condensing)
Noise level	<5dB (No Fan)
COMPLIANCE	
Safety	EN62040 - 1 - 1 2003, IEC60950 - 1: 2001
EMC	EN62040 - 2 2006
RoHS	Directive 2011/65/EU

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

TYPICAL RUN TIMES

Small telephone with 4 handsets	60 minutes
Medium telephone with 16 hand sets	23 minutes
DVR and 4 cameras	62 minutes
DVR and 16 cameras	37 minutes
Computer with 17" LCD monitor	17 minutes
Computer with 24" LCD monitor	12 minutes

6 OUTLETS

Front View



Top View



The Defender range uses Automatic Voltage Regulation (AVR) to minimise the effects of fluctuations in input voltage protecting your valuable equipment from power line disturbances.

The stylish LCD display, user replaceable batteries and six Australian sockets makes the Defender the complete package at this level.

applications include:

- home office equipment
- work stations
- rack equipment
- point of sale equipment

Defender Range



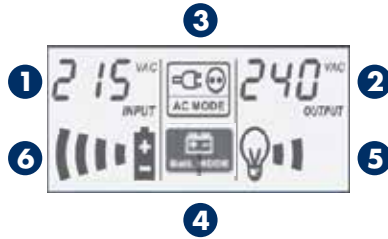
features

- Surge Protection, Best in its Class
- Excellent microprocessor control guarantees high reliability
- Australian outlets for UPS and Surge protection (x3)
- Australian outlets for Surge protection (x3)
- Buck and boost AVR for voltage stabilization
- User replaceable batteries
- Silent Operation (No fans included)
- Auto restart while AC is recovering
- Off-mode charging
- Cold start function
- USB communication with sophisticated NetGuard® software

DEFENDER		
Model	PSD1200	PSD1600
Capacity	1200VA / 720W	1600VA / 960W
Topology	Line Interactive	
INPUT		
Voltage	240Vac (Nominal)	
Voltage Range	177-290Vac	
Frequency Range	50/60Hz ± 5Hz (auto sensing)	
OUTPUT		
Output Voltage	240Vac ± 10%	
Frequency	AC mode tracks utility. Battery Mode 50Hz+/-1%	
Frequency Range (Battery Mode)	50Hz or 60Hz ± 1Hz	
Transfer Time	6ms typical, 10ms max.	
Waveform (Battery Mode)	Simulated Sine Wave	
Australian Outlets - UPS & Surge Protection	3	
Australian Outlets - Surge Protection	3	
BATTERY		
Battery Type & Number	12V* 7AH (x2)	12V*9AH (x2)
Typical Recharge Time	6 hours recover to 90% capacity	
Backup Time (50% Load)	13 min.	4 min.
PROTECTION		
Full Protection	Overload, discharge, and overcharge protection	
Surge Protection	936Joules / 19500Amps	
COMMUNICATIONS & MANAGEMENT		
Interface	USB interface	
Software	PowerShield® NetGuard® supports - Windows®, Linux, Unix and Mac	
LCD Alarm	AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault, Overload	
Audible Alarm	Battery Mode, Low Battery (Batt. Mode), Fault, Overload	
PHYSICAL		
Dimensions (D x W x H)	(397 x 146 x 205)mm	
Net Weight	11.1kg	11.5kg
OPERATING ENVIRONMENT		
Temperature	0-40°C	
Humidity	0-90 % (RH non-condensing)	
Noise Level	<5dB (No Fan)	
COMPLIANCE		
Safety	EN62040 - 1 - 1 2003. IEC60950 - 1: 2001	
EMC	EN62040 - 2 2006	
RoHS	Directive 2011/65/EU	

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

1. Input voltage
2. Output voltage
3. AC mode indicator
4. Battery mode indicator
5. Load level indicator, flashing indicates overload
6. Battery capacity indicator, flashing indicates low battery level



PSD1200
PSD1600

Designed to ensure clean power and reliable operation of all kinds of IT devices in the network system. The Commander protects your equipment against power failures, power sags, power surges, under voltage and over voltage that can harm your equipment or result in corrupted data. The pure sine wave output on battery backup is best for server and motor applications.

The Commander provides a cost effective and high level of protection for sensitive electronic devices. It also offers options for graceful shutdown of valuable IT equipment.

It comes with the highest surge rating of any standard UPS with 1558 joules and 40,000Amp surge protection. The narrow output voltage variance of 5% ensures that sensitive equipment is subjected to only small voltage inconsistencies. The LCD display gives the user the ability to see voltages in/out, frequency in/out as well as temperature, load and battery voltage. In addition, these UPSs have Real Time Battery Management which tells how many minutes backup the user has when the power goes off.

applications include:

- network devices
- servers
- small networks
- PLCs
- Automatic Gates and Doors



Commander Tower



features

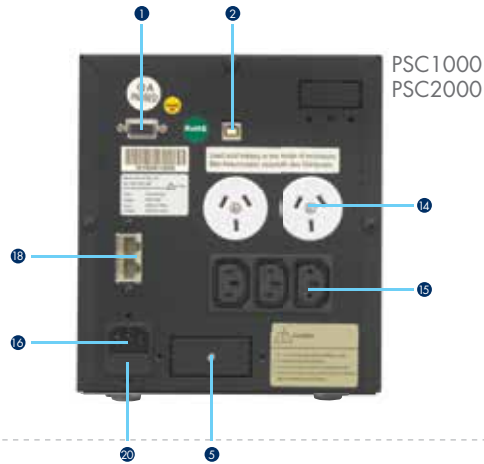
- Highest surge rating - 1558Joules/ 40000Amps of surge protection
- Works for gates, camera surveillance, computers, telephone systems, servers, and other sensitive electronic equipment.
- Intelligent Real Time Battery backup display
- Smart 5% AVR with 2 step buck and boost
- Pure sine wave line interactive
- Intelligent double stage charger control which translates to a faster recharge rate
- Generator compatible

COMMANDER TOWER		
Model	PSC1000	
Capacity	1000VA/700W	
Topology	Line Interactive , Pure Sine Wave	
INPUT		
Input Voltage range	180 - 300Vac	
Frequency	47Hz - 65Hz, 50/60Hz auto-sensing	
OUTPUT		
Output Voltage	240 ± 5% (2 step buck and boost)	
Output Voltage Regulation	Nominal Voltage ± 5% or (optional ± 8% AVR for wide input up to 35%)	
Output Voltage Selectable	200Vac or 220Vac or 230Vac or 240Vac	
Frequency	47 - 55Hz for 50Hz nominal, 56Hz - 65Hz for 60Hz nominal or (battery mode 50Hz ± 1%)	
Wave Form - AC Mode	Pure Sine Wave	
Wave Form - Battery Mode	Pure Sine Wave	
Transfer Time	<3ms	
Load Crest Factor	3:1	
Australian sockets	2	
10Amp IEC outlets	3	
BATTERY		
Battery Type	Sealed maintenance free lead acid batteries (12V*7.2AH)	
Number of Batteries	2	4
Charger	Smart CPU controls over current, over voltage, thermal protection and battery condition	
Recharge Time	Less than 3 hours to 90% (smart two mode pulse charging)	
Typical Backup	Half load 14 minutes, full load 5 minutes	
PROTECTION		
Input Surge Protection	1581Joules/40,000Amps	
Short Circuit	AC fuse	
Telephone / Modem / LAN	RJ45, Full time telephone, modem or LAN protection. C-tick, A-tick	
COMMS & MANAGEMENT		
Interface	USB & RS232 as Standard, Intelligent slot for SNMP or AS400 dry contact	
Software	PowerShield® UPSilon 2000 compatible with Windows, Linux, Novell & Unix	
LCD Display	Sophisticated LCD - input voltage, output voltage, frequency, load, battery status, smart remaining backup time	
Audible Alarm	Alarm - on battery, overload, short circuit, over temperature, faulty battery, abnormal operation	
PHYSICAL		
Dimensions (D x W x H)	(380 x 200 x 180)mm	(510 x 200 x 180)mm
Weight (Net/Gross)	(15kg/16kg)	(26kg/26kg)
OPERATING ENVIRONMENT		
Temperature	0 - 40°C	
Humidity	0 - 95% (RH Non-condensing)	
Noise Level	Less than 40dB	
COMPLIANCE		
Safety	EN 50091 - 1 - 1	
EMC	Class B, EN 50091-2, FCC part 15, IEC1000-2-2, C-tick (Full time EMI-RFI filtering)	
RoHS	Directive 2011/65/EU	

* Specifications are subject to change without prior notice.

* UPS output capacity is calculated at PF = 0.7

- 1 RS-232 communication port
- 2 USB communication port
- 3 Emergency power off function connector (EPO connector)
- 4 Cooling fan
- 5 Intelligent slot
- 6 External battery connector
- 7 Input/Output
- 8 Input breaker
- 9 External maintenance bypass switch port
- 10 Output terminal
- 11 Ground terminal
- 12 Utility input terminal
- 13 Output circuit breaker
- 14 Programmable outlets: connect to non critical loads.
- 15 Output receptacles: connect to mission critical loads.
- 16 AC input
- 17 Input circuit breaker
- 18 Dateline protection
- 19 15A outlet
- 20 Fuse



With pure sine wave output, the Commander Rackmount / Tower provides compatibility for all kinds of loads. It offers power protection for applications such as networking, telecom, security and motors to name a few.

The Advanced ECO mode function allows cost-effective operation of the UPS with an efficiency as high as 98%. With features such as 2RU, hot swappable batteries, highest surge rating in its class, and combination of Australian and IEC outlets, this sophisticated line interactive pure sine wave UPS is in a class of its own. To provide longer backup time the 2kVA and 3kVA models are expandable to include an additional battery bank.

- Optional Accessories
- PSSNMP - SNMP card (option to connect a PSEMD)
 - PSEMD - Environmental Monitoring Device for temperature and humidity
 - PSModbus - Modbus card
 - PSAS400 - AS400 dry contact card
 - PSRK - 1RU rail kit
 - PSRTBB8, PSRTBB12 - Extra battery bank
 - PSMBBS2k, PSMBBS3k- Maintenance Bypass Switch



Commander RT



features

- Surge Protection, best in its class
- Pure sine wave output
- Rack/Tower design
- Microprocessor-based line interactive design
- Built-in buck and boost AVR
- Output power factor 0.8
- Programmable power management outlets
- Advanced ECO operation mode for energy saving
- EPO - Emergency Power Off Function
- Hot-swappable battery design
- Multiple communication options available



COMMANDER RT				BATTERY BANKS		
Model		PSCRT1100	PSCRT2000	PSCRT3000	PSCRTBB8	PSCRTBB12
Capacity		1100VA/880W	2000VA/1600W	3000VA/2400W	Suits PSCRT2000	Suits PSCRT3000
Topology		Line Interactive, Pure Sine Wave				
INPUT						
Voltage		240Vac (Nominal)				
Voltage Range		162-290Vac				
Frequency Range		50/60 Hz [Auto Sensing] ±5Hz				
OUTPUT						
Output Voltage (AC Mode)		240Vac (Selectable208/220/230Vac) ±10% AVR				
Voltage Regulation (Batt. Mode)		±3%				
Frequency Range (Batt. Mode)		50Hz or 60Hz ± 1Hz				
Current Crest Ratio		3:1				
Transfer Time		6ms (Typical)				
Waveform (Batt. Mode)		Pure Sine Wave				
EFFICIENCY						
ECO Mode (Advanced)		98%	98%	98%		
Battery Mode		83%	89%	87%		
BATTERY						
Standard Model	Battery Type & Number	12V*9Ah (x 2)	12V*9Ah (x 4)	12V*9Ah (x 6)	12V*9Ah (x 8)	12V*9Ah (x 12)
	Typical Recharge Time	4 Hours Recover to 90% Capacity				
Additional Battery Banks		N/A	PSCRTBB8 (x1)	PSCRTBB12 (x1)		
PROTECTION						
Full Protection		Overload, discharge, thermal, short circuit and overcharge protection				
Surge Protection		1560Joules / 32500Amps				
COMMUNICATIONS & MANAGEMENT						
Interface		USB or RS232 as standard, Intelligent slot for PSSNMP, PSModbus or PSAS400 dry contact				
Software		PowerShield® NetGuard® software supports Windows®, Linux, Unix, and MAC				
LCD Display/Alarm		AC mode, Batt. mode, Load Level, Input Voltage, Output Voltage, Overload, Fault, Low Batt., Batt. Time remaining				
Audible Alarm		Battery mode, low battery (batt. mode), fault, overload				
PHYSICAL						
Dimension (D x W x H)		(380 x 438 x 88)mm		(600 x 438 x 88)mm	(480 x 438 x 88)mm	(600 x 438 x 88)mm
Weight (Net/Gross)		(15kg / 16kg)	(23kg / 25kg)	(32kg / 35kg)	(25kg / 27kg)	(35kg / 37kg)
OPERATING ENVIRONMENT						
Temperature		0 - 40°C				
Humidity		0 - 90% (RH Non-condensing)				
Noise Level		< 45dB				
COMPLIANCE						
Safety		EN62040 - 1 - 1 2003, IEC60950 - 1 - 1				
EMC		EN62040 - 2 2006				
RoHS		Directive 2011 / 65 / EU				

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

- 1 RS-232 communication port
- 2 USB communication port
- 3 Emergency power off function connector (EPO connector)
- 4 Cooling fan
- 5 Intelligent slot
- 6 External battery connector
- 7 Input/Output
- 8 Input breaker
- 9 External maintenance bypass switch port
- 10 Output terminal
- 11 Ground terminal
- 12 Utility input terminal
- 13 Output circuit breaker
- 14 Programmable outlets: connect to non critical loads.
- 15 Output receptacles: connect to mission critical loads.
- 16 AC input
- 17 Input circuit breaker
- 18 Dataline protection
- 19 15A outlet
- 20 Fuse



The Centurion is designed to protect critical computer, communications, industrial, medical and other mission critical equipment. A true online double conversion UPS, the Centurion is designed to guarantee trouble-free operation of protected equipment in any harsh electrical environment. Versatile management and hardware options offer the flexibility to build up a power protection solution to fit any application. This range now comes with two sets of sockets on the back, one row of output sockets are programmable meaning that you can shed less important loads. This will leave additional valuable back up time to the equipment that is most critical. This UPS includes a stylish, informative LCD display.

applications include:

- critical servers
- small networks
- critical IT applications
- PLCs
- telecom applications
- security equipment
- manufacturing



Centurion Tower



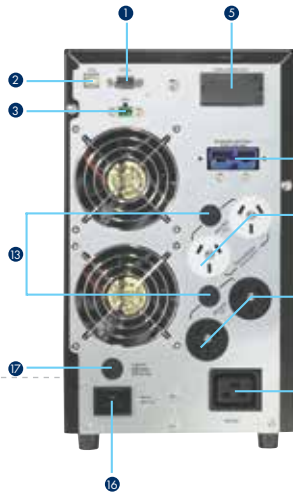
features

- True Online Double Conversion
- Wide input voltage range (110-300Vac)
- Input power factor correction 0.98
- 50Hz/60Hz frequency converter mode
- Programmable power outlets
- Emergency power off function (EPO)
- Optional Eco-mode operation for energy saving
- Generator compatible
- Backup time for all models is easily extended by simply plugging additional battery banks
- Charger capacity expansion to 9A for long-run models
- USB, RS232, SNMP and AS400 multiple communications available
- External maintenance bypass available for all models
- N+X parallel redundancy available for 6K/10K models
- Monitoring and Shutdown Software included

CENTURION TOWER											
Model		PSCE1000		PSCE2000		PSCE3000		PSCE6000		PSCE10K	
Capacity		1000VA / 800W		2000VA / 1600W		3000VA / 2400W		6000VA / 4800W		10000VA / 8000 W	
Topology		True online double-conversion									
INPUT											
Voltage Range	Low Line Transfer		160Vac / 140Vac / 120Vac / 110Vac ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)					176Vac @ 100% load 110Vac @ 50% load			
	Low Line Comeback		175Vac ± 5 %					186Vac @ 100% load 120Vac @ 50% load			
	High Line Transfer		300Vac ± 5 %					300Vac			
	High Line Comeback		47.5Hz ~ 52.5 Hz or 57Hz ~ 63Hz					290Vac			
Frequency Range		47.5Hz ~ 52.5 Hz or 57Hz ~ 63Hz					46~54 Hz 50Hz / 56~64Hz 60Hz				
Phase		Single phase with ground									
Power Factor		0.98					0.99 @ 100%load				
OUTPUT											
AC Voltage Regulation (Batt. Mode)		± 3%					± 1%				
Frequency Range (Synchronized Range)		48 ~ 52Hz or 57 ~ 63Hz					46~54Hz 50Hz/56~64Hz 60Hz				
Frequency Range (Batt. Mode)		50Hz ± 0.25Hz or 60Hz ± 0.3Hz					50Hz ± 0.1Hz or 60Hz ± 0.1Hz				
Load Crest Factor		3:1									
Harmonic Distortion		3 % THD (Linear Load) 6 % THD (Non-linear Load)		4 % THD (Linear Load) 7 % THD (Non-linear Load)			2 % THD (Linear Load) 6 % THD (Linear Load)				
Transfer	AC Mode to Batt. Mode		Zero								
	Inverter to Bypass		4 ms (Typical)					zero			
Waveform (Batt. Mode)		Pure Sinewave									
EFFICIENCY											
ECO Mode		85%		88%			90%				
Battery Mode		83%					88%				
BATTERY											
Battery Type		12V*9AH(x3)		12V*9AH(x6)		12V*9AH(x6)		12V*9AH(x20)		12V*9AH(x20)	
Typical Recharge Time		4 hours recover to 90% capacity					7 hours recover to 90% capacity		7 hours recover to 90% capacity		
Charging Current (max.)		1.0A					1.0A				
Charging Voltage		41.0 VDC ± 1%		82.1 VDC ±1%			273.0 VDC				
PROTECTION											
Full Protection		Overload, discharge, thermal, short circuit and overcharge protection									
COMMUNICATIONS & MANAGEMENT											
Interface		USB or RS232 as standard, Intelligent slot for PSSNMP or PSAS400 dry contact									
Software		Power Shield Netguard® Software - supports Windows based operating Systems, Linux, Unix & Mac									
LCD Display/ Alarm		UPS Status, Load Level, Battery Level, Input/Output Voltage, Battery Time Remaining and Fault Indicators									
Audible Alarm		Battery Mode, Low Battery, Overload, Fault									
PHYSICAL											
Dimensions (D x W x H)		(396 x 145 x 240) mm		(425 x 190 x 335)mm			(575 x 250 x 576.5)mm				
Weight		14kg		26kg		28kg		90kg		35kg 93kg 38kg	
OPERATING ENVIRONMENT											
Temperature		0 - 40°C									
Humidity		20 - 90% (RH Non-Condensing)									
Noise Level		Less than 45dBA @ 1 Meter					Less than 55dB @ 1 Meter				
COMPLIANCE											
Safety		EN62040 - 1 - 1 2003, IEC60950 - 1 - 1									
EMS		EN62040 - 2 2006									
RoHS		Directive 2001 / 65 / EU									

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

- 1 RS-232 communication port
- 2 USB communication port
- 3 Emergency power off function connector (EPO connector)
- 4 Cooling fan
- 5 Intelligent slot
- 6 External battery connector
- 7 Input/Output
- 8 Input breaker
- 9 External maintenance bypass switch port
- 10 Output terminal
- 11 Ground terminal
- 12 Utility input terminal
- 13 Output circuit breaker
- 14 Programmable outlets: connect to non critical loads.
- 15 Output receptacles: connect to mission critical loads.
- 16 AC input
- 17 Input circuit breaker
- 18 Dateline protection
- 19 15A outlet
- 20 Fuse



CENTURION TOWER LOAD VA						
VA	LOAD	PSCE1000	PSCEBB6	PSCEBB6	PSCEBB6	
1000VA	100%	12 minutes	45 minutes	80 minutes	115 minutes	
500VA	50%	25 minutes	105 minutes	170 minutes	250 minutes	
						
		PSCE2000	PSCEBB12	PSCEBB18CH	PSCEBB12	
2000VA	100%	12 minutes	50 minutes	115 minutes	145 minutes	
1000VA	50%	25 minutes	110 minutes	215 minutes	320 minutes	
						
		PSCE3000	PSCEBB12	PSCEBB18CH	PSCEBB12	
3000VA	100%	5 minutes	27 minutes	60 minutes	90 minutes	
1500VA	50%	16 minutes	60 minutes	145 minutes	185 minutes	
						
		PSCE6000	PSCEBB40	PSCEBB60CH	PSCEBB40	
6000VA	100%	13 minutes	50 minutes	110 minutes	170 minutes	
3000VA	50%	35 minutes	110 minutes	260 minutes	320 minutes	
						
		PSCE10K	PSCEBB40	PSCEBB60CH	PSCEBB40	
10KVA	100%	5 minutes	27 minutes	60 minutes	100 minutes	
5000VA	50%	16 minutes	60 minutes	145 minutes	205 minutes	
						
TOWER MODELS BATTERY BANKS						
MODEL		PSCEBB6	PSCEBB12	PSCEBB18CH	PSCEBB40	PSCEBB60CH
SUITS UPS		PSCE1000	PSCE2000/3000	PSCE2000/3000	PSCE6000/10K	PSCE6000/10K
BATTERY						
Type		12V*9AH	12V*9AH	12V*9AH	12V*9AH	12V*9AH
Number		6	12	18	40	60
Nominal DC		36Vdc	72Vdc	72Vdc	240Vdc	240Vdc
Charger		From UPS	From UPS	4Amps/8Amps (selectable)	From UPS	4Amps/8Amps (selectable)
PHYSICAL						
Dimensions D x W x H		397 x145 x 220mm	421 x 190 x 318mm	534 x 190 x 318mm	592 x 285 x 576mm	830 x 250 x 576mm
Weight Net/Grosskg		21/22Kg	42/44Kg	62/64Kg	125/132Kg	190/205Kg
PROTECTION		DC Circuit breaker				
VIRTUALLY UNLIMITED RUN TIMES CAN BE ACHIEVED BY ADDING BATTERY BANKS TO STANDARD MODELS						

Notes: Unlimited numbers of batteries banks can be added however it is recommended to add a Battery Bank that has an internal charger (PSCEBB18CH or PSCEBB60CH) if large battery banks are added and fast charging is required. Usually these should be added as the second, third or fourth battery bank depending on your requirements. When these battery banks with chargers are added, it is possible to substantially increase the number of regular battery banks. The following battery banks have built-in chargers. These also have more batteries than regular battery banks. PSCEBB18CH - Suits 2k & 3K
• PSCEBB60CH - Suits 6k & 10K

• UPS output capacity is calculated at PF = 0.7



As a true online double conversion UPS the Centurion RT is our highest single phase power density UPS. Boasting an output power factor of 0.9, this sophisticated UPS will provide the most comprehensive protection for mission critical devices.

The Centurion RT has an energy saving Advanced ECO mode, which allows the unit to operate at very high efficiency, up to 98%. When the utility mains input voltage is within the ECO range the UPS saves energy by passing the mains supply directly through to the load, while the inverter continues to operate in a passive mode.

The Centurion RT incorporates hot-swappable internal battery packs which can be accessed via the front panel for maintenance changes, keeping the UPS operational during battery replacement. Battery backup time can be increased by simply adding additional Battery Banks. The standard Centurion RT has been designed with a larger charger than others ensuring rapid recharge times when adding additional battery banks.

The LCD display panel is readily viewable whether the UPS is horizontal or vertical. The display Menu is simple and intuitive. It displays all critical and noncritical parameters, including the estimated battery backup time remaining. This UPS comes with programmable power management outlets allowing the user to control load segments, thereby extending battery backup times to mission critical devices by shutting down noncritical items.

The Centurion RT has been meticulously developed by Power Shield engineers to address absolutely all requirements and features as has been demanded by the sophisticated Australian power consumer and hence the Centurion RT stands in a class of its own, as a world leading UPS technology.

- Optional Accessories
- PSSNMP - SNMP card (option to connect a PSEMD)
 - PSEMD - Environmental Monitoring Device for temperature & humidity
 - PSModbus - Modbus card
 - PSAS400 - AS400 dry contact card
 - PSRK - 1RU rail kit
 - PSRTBB6, PSRTBB12 - Extra battery bank
 - PSMB52k, PSMB53k- Maintenance Bypass Switch



Centurion RT



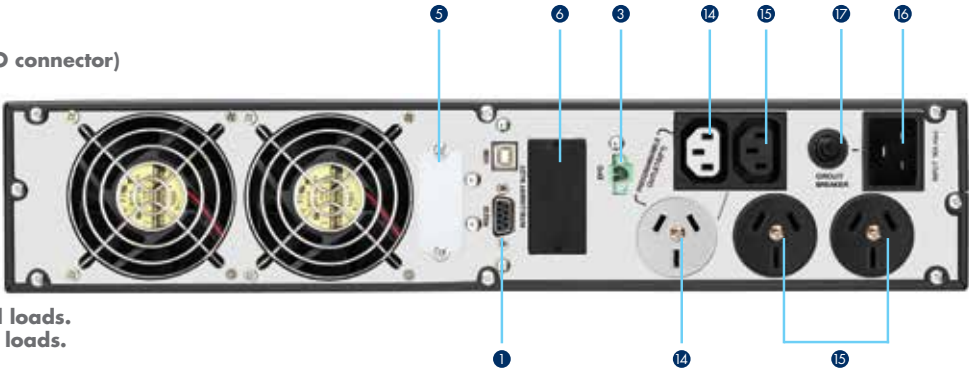
features

- Surge Protection Best in its Class - 984 Joules / 22000 Amps
- True online double-conversion
- Power factor 0.9
- Extra large charger for rapid recharging
- Option to add additional battery banks to increase backup time
- User-friendly, electronic easy-shift LCD display
- Rack or Tower design
- Advanced ECO mode for energy saving
- Generator compatible
- Programmable power management outlets
- EPO - Emergency Power Off function
- Hot swappable battery design
- Available in 1000, 2000 and 3000 VA models
- USB, RS232, SNMP, Modbus, Environmental Monitoring sand AS400 multiple communications available
- Easy-shift LCD display

CENTURION RT							BATTERY BANKS		
Model	PSCERT1000	PSCERT1000L	PSCERT2000	PSCERT2000L	PSCERT3000	PSCERT3000L	PSRTBB6	PSRTBB12	
Capacity	1000VA/900W		2000VA/1800W		3000VA/2700W		Suits PSCERT1000	Suits PSCERT2000 and PSCERT3000	
Topology	True online double- conversion,Pure Sine Wave								
INPUT									
Voltage Range	Low Line Transfer	160Vac / 140Vac / 120 / 110Vac ± 5 % (based on load percentage 100%-80% / 80%-70% / 70%-60% / 60%-0)							
	Low Line Comeback	170Vac / 150Vac / 130Vac / 120Vac ± 5 %							
	High Line Transfer	300Vac ± 5 %							
	High Line Comeback	290Vac ± 5 %							
Frequency Range		40Hz - 70Hz							
Phase		Single phase with ground							
Power Factor Correction		≥ 0.99 @ nominal voltage (100% load)							
OUTPUT									
Output Voltage (AC Mode)		240Vac (Selectable 208/220/230/240Vac)							
Voltage Regulation (Batt. Mode)		± 1%							
Frequency Range (Batt. Mode)		50Hz or 60Hz ±1Hz							
Current Crest Ratio		5:1 (max.)							
Transfer Time		4ms (Typical)							
EFFICIENCY									
ECO Mode (Advanced)		98%		98%		98%			
Battery Mode		86%		87%		87%			
BATTERY									
Battery Type & Number		12 V*9AH (x 3)		12 V*9AH (x 6)		12 V*9AH (x 6)	12 V*9AH (x 6)	12 V*9AH (x 12)	
Typical Recharge Time		4 hours recover to 90% capacity (for standard model only)							
Charging Current (max.)		Standard Models - 1.5Amp Long Range Models - 1Amp / 2Amp / 4Amp / 6Amp (factory default is 6Amp)							
PROTECTION									
Full Protection		Overload, discharge, thermal, short circuit and overcharge protection							
Surge Protection		984 Joules / 22000 Amps							
COMMUNICATIONS & MANAGEMENT									
Interface		USB or RS232 as standard, Intelligent slot for PSSNMP, PSModbus or PSAS400 dry contact							
Software		PowerShield® NetGuard® software - supports Windows based operating systems, Linux, Unix and Mac							
LCD Display/Alarm		UPS Status, Load & Battery Level, Input/Output Voltage, Batt. Time Remaining and Fault Indicators							
Audible Alarm		Battery Mode, Bypass Mode, Low Battery (Batt. Mode), Fault, Overload							
PHYSICAL									
Dimension, (D x W x H)		(480 x 438 x 88) mm		(600 x 438 x 88) mm		(600 x 438 x 88) mm	(480 x 438 x 88) mm	(600 x 438 x 88) mm	
Weight		18kg	10kg	29.6kg	13.8kg	29.6kg	13.8kg	22kg	42kg
OPERATING ENVIRONMENT									
Temperature		0 - 40°C							
Humidity		20 - 90% (RH Non-condensing)							
Noise Level		< 50dBA @ 1 Meter							
COMPLIANCE									
Safety		EN62040 - 1 - 1 2003, IEC60950 - 1 - 1							
EMC		EN62040-2 2006							
RoHS		Directive 2011/65/EU							

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7
* Models ending in "L" are long run models with larger chargers and therefore have no internal batteries

- 1 RS-232 communication port
- 2 USB communication port
- 3 Emergency power off function connector (EPO connector)
- 4 Cooling fan
- 5 Intelligent slot
- 6 External battery connector
- 7 Input/Output
- 8 Input breaker
- 9 External maintenance bypass switch port
- 10 Output terminal
- 11 Ground terminal
- 12 Utility input terminal
- 13 Output circuit breaker
- 14 Programmable outlets: connect to non critical loads.
- 15 Output receptacles: connect to mission critical loads.
- 16 AC input
- 17 Input circuit breaker
- 18 Dataline protection
- 19 15A outlet
- 20 Fuse



The Centurion resolves utility power problems and delivers superior power to equipment requiring Critical Power®.

As a True Online Double-conversion UPS, the UPS takes the AC signal, converts it to DC and then back to AC, thus eliminating any noise or electrical interference and delivering perfect 240Vac and 50Hz frequency to all equipment. It is this seamless transfer to batteries that will continue to feed equipment in the case of a mains failure.

The Centurion Rackmount UPS comes complete with NetGuard® software to enable the UPS to softly shutdown the system after a prescribed amount of time designated by the user. The Centurion Rackmount, like its Tower counterpart, also has programmable sockets on the back so that the user may get more backup on more critical equipment. SNMP and AS400 card slots are present on the back of the unit for remote management and dry contact communications.

applications include:

- manufacturing
- servers and networking gear
- telecommunications, VoIP and security systems
- medical systems
- Mining applications



Centurion Rackmount





features

- True Online Double Conversion
- Wide input voltage range (110-300Vac)
- Input power factor correction 0.98
- 50Hz/60Hz frequency converter mode
- Programmable power outlets
- Emergency power off function (EPO)
- Eco-mode operation for energy saving (ECO)
- Generator compatible
- Backup time for all models is easily extended by simply plugging additional battery banks
- Charger capacity expansion to 8A for long-run models
- USB+RS232 + SNMP + AS400 multiple communications
- Maintenance Bypass Switch available for all models
- N+X parallel redundancy available for 6K/10K models

CENTURION RACKMOUNT			
Model		PSCER6000L	PSCER10KL
Capacity		6000VA / 4800W	10000VA / 8000W
Topology		True online double-conversion	
INPUT			
Voltage Range	Low Line Transfer	176Vac @ 100% load 110Vac @ 50% load	
	Low Line Comeback	186Vac @ 100% load 120Vac @ 50% load	
	High Line Transfer	300Vac	
	High Line Comeback	290Vac	
Frequency Range		46~54 Hz 50Hz / 56~64Hz 60Hz	
Phase		Single phase with ground	
Power Factor		0.99 @ 100%load	
OUTPUT			
AC Voltage Regulation (Batt. Mode)		± 1%	
Frequency Range (Synchronized Range)		46~54Hz or 56~64Hz	
Frequency Range (Batt. Mode)		50Hz ± 0.1Hz or 60Hz ± 0.1Hz	
Load Crest Factor		3:1	
Harmonic Distortion		3% THD (Linear Load) 6% THD (Linear Load)	
Transfer Time	AC Mode to Batt. Mode	Zero	
	Inverter to Bypass	Zero	
Waveform (Batt. Mode)		Pure Sinewave	
EFFICIENCY			
ECO Mode		90%	
Battery Mode		88%	
BATTERY			
Battery Type		12V*9AH(x20 external cabinet)	12V*9AH(x20 external cabinet)
Typical Recharge Time		3 hours recovery to 90% capacity	3 hours recovery to 90% capacity
Charging Current (max.)		2.0A	
Charging Voltage		273.0 VDC ± 1%	
PROTECTION			
Full Protection		Overload, discharge, thermal, short circuit and overcharge protection	
COMMUNICATIONS & MANAGEMENT			
Interface		USB or RS232 as standard, Intelligent slot for PSSNMP or PSAS400 dry contact	
Software		Power Shield Netguard® Software - supports Windows based operating Systems, Linux, Unix & Mac	
LCD Display/ Alarm		UPS Status, Load Level, Battery Level, Input/Output Voltage, Battery Time Remaining and Fault Indicators	
Audible Alarm		Battery Mode, Low Battery, Overload, Fault	
PHYSICAL			
Dimensions (D x W x H)		(580 x 438 x 133 (3RU))mm	(668 x 438 x 133 (3RU))mm
Weight		21kg	23kg
OPRATING ENVIRONMENT			
Temperature		0- 40°C	
Humidity		20-90 % (RH Non-condensing)	
Noise Level		Less than 55dBA @ 1 Meter	
COMPLIANCE			
Safety		EN62040 - 1 - 1 2003, IEC60950 - 1 - 1	
EMS		EN62040 - 2 2006	
RoHS		Directive 2001 / 65 / EU	

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7
* Models ending in "L" are long run models with larger chargers and therefore have no internal batteries

CENTURION RACKMOUNT LOAD VA				
				
PSCE6000		1x PSCERBB20	2x PSCERBB20	3x PSCERBB20
6000VA		12 minutes	30 minutes	55 minutes
3000VA		30 minutes	85 minutes	120 minutes
				
PSCER10K		1x PSCERBB20	2x PSCERBB20	3x PSCERBB20
10KVA		5 minutes	16 minutes	28 minutes
5000VA		16 minutes	38 minutes	60 minutes

* UPS output capacity is calculated at PF = 0.7



- 1. RS-232 communication port
- 2. USB communication port
- 3. Emergency power off function connector (EPO connector)
- 4. Cooling fan
- 5. Intelligent slot
- 6. External battery connector
- 7. Input/Output
- 8. Input breaker
- 9. External maintenance bypass switch port
- 10. Output terminal
- 11. Ground terminal
- 12. Utility input terminal
- 13. Output circuit breaker
- 14. Programmable outlets: connect to non critical loads.
- 15. Output receptacles: connect to mission critical loads.
- 16. AC input
- 17. Input circuit breaker
- 18. Dataline protection
- 19. 15A outlet
- 20. Fuse



The Centurion Dual series has been specifically designed to accept a broad range of worldwide mains utility supplies supporting both high-voltage and low-voltage environments. It automatically accepts two input ranges of 88 to 144Vac and 176 to 288Vac. The output is precisely regulated and sustained even at full load. Galvanic isolation is provided via an isolation transformer to isolate the output from the AC input. The UPS provides full isolation and complete common mode noise rejection for connected equipment.

The Centurion is designed to protect critical computer, communications, industrial, medical and other mission critical equipment. A true online double conversion UPS, the Centurian is designed to guarantee trouble free operation of protected equipment in any harsh electrical environment. Versatile management and hardware options offer the flexibility to build up a power protection solution to fit any application.

This new range now comes with smart battery charger design technology for optimized battery performance.

This will leave additional valuable backup time to the equipment that is most critical. This UPS includes a stylish, informative LCD display for local access and a variety of communications options for remote users.

applications include:

- critical servers
- small networks
- critical IT applications
- PLCs
- telecom applications
- security equipment
- manufacturing
- marine
- mining & resource
- railways
- oil rigs
- multi-nation



Centurion Dual

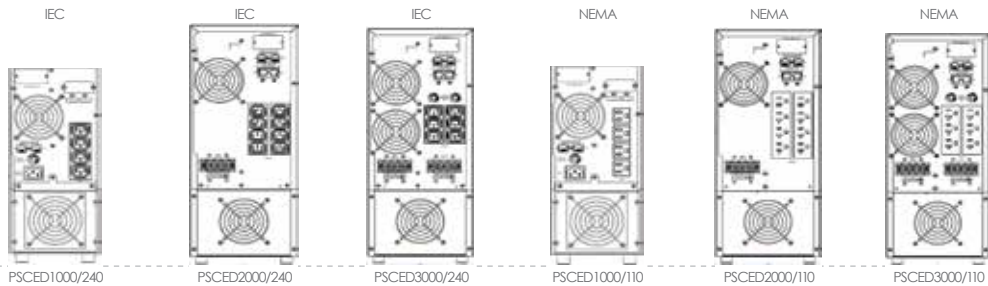


features

- Dual voltage, wide input, autosensing voltage range (88-144Vac and 176-288Vac)
- Complete galvanic isolation design offers full isolation and complete common mode noise rejection
- True online double-conversion
- Input power factor correction 0.99
- ECO mode for energy saving
- Intelligent Slot for optional USB or RS-232 or AS400 or SNMP communication
- Smart battery charger design for optimized battery performance
- Accepts dual-mains inputs for special power environment with high Voltage and Low Voltage

CENTURION DUAL							
Model		PSCED1000/240	PSCED2000/240	PSCED3000/240	PSCED1000/110	PSCED2000/110	PSCED3000/110
Capacity		1000VA/800W	2000VA/1600W	3000VA/2400W	1000VA/800W	2000VA/1600W	3000VA/2400W
INPUT							
Voltage Range		88 - 144Vac and 176 - 288Vac (Auto sensing)					
Frequency Range		45Hz - 55 Hz or 56Hz - 65 Hz (Auto sensing)					
Phase		Single phase with ground					
Power Factor		≥ 0.99					
OUTPUT							
Output Voltage		240Vac (Factory Preset) IEC model (User may select output setting of 208/220/230Vac)			110Vac (Factory Preset) NEMA model (User may select output settings of 115/120/127Vac)		
AC Voltage Regulation (Static)		± 1%					
Frequency Range (Synchronized Range)		47- 53 Hz or 57 - 63 Hz					
Frequency Range (Batt. Mode)		50 Hz ± 0.2 Hz or 60Hz ± 0.2 Hz					
Current Crest Ratio		3:1					
Harmonic Distortion		≤ 2 % THD (Linear Load), ≤ 6 % THD (Non-linear Load)					
Transfer Time	AC Mode to Batt. Mode	Zero					
	AC Mode to Bypass/ECO	4 ms (Typical)					
	Bypass/ECO to AC Mode	4 ms (Typical)					
	ECO to Batt. Mode	10 ms (Typical)					
Waveform (Batt. Mode)		Pure Sine Wave					
EFFICIENCY(Peak)							
Battery Mode (@ 100% RCD load)		84% (Typical); 86% (Peak)	86 % (Typical); 88% (Peak)	87 % (Typical); 89% (Peak)	84% (Typical); 86% (Peak)	86 % (Typical); 88% (Peak)	87 % (Typical); 89% (Peak)
ECO Mode		85%	88%	90%	85%	88%	90%
BATTERY							
Standard Model	Battery Type	12V / 9Ah	12V / 9Ah	12V / 9Ah	12V / 9Ah	12V / 9Ah	12V / 9Ah
	Battery Numbers	2	4	6	2	4	6
	Typical Recharge Time	5 hours recover to 90% capacity					
	Charging Current (max.)	1.0 A					
	Charging Voltage	27.4 VDC ± 1%	54.8 VDC ±1%	82.2 VDC ±1%	27.4 VDC ± 1%	54.8 VDC ±1%	82.2 VDC ±1%
INDICATORS							
LCD Panel		UPS status, Load level, Battery level, Input/Output/battery info, Discharge timer, and Fault conditions					
ALARM							
Battery Mode		Sounding every 4 seconds					
Low Battery		Sounding every second					
Overload		Sounding twice every second					
Fault		Continuously sounding					
PHYSICAL							
Input Connection		1 x IEC	Terminal	Terminal	1 x IEC	Terminal	Terminal
Output Connection		4 x IEC	8 x IEC	6 x IEC + terminal	4 x NEMA	8 x NEMA	6 x NEMA + terminal
Standard Model	Dimensions D x W x H (mm)	423 x 145 x 332	426 x 190 x 448	426 x 190 x 448	423 x 145 x 332	426 x 190 x 448	426 x 190 x 448
	Net Weight (kgs)	26.5	34	56	26.5	34	56
ENVIRONMENT							
Humidity		20-95 % RH @ 0 - 40°C (non-condensing)					
Noise Level		Less than 50dBA @ 1 Meter					
MANAGEMENT							
Communication		Optional RS232 Card or USB Card or SNMP Card or AS400 Card available PowerShield® NetGuard® software supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix and Mac					

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7



In applications where only limited three phase power is available yet a large single phase power supply is necessary, the PowerShield® Centurion 3/1 ticks all the boxes. Recommended in applications where a balanced load is required, the Centurion 3/1 Series has all of the features of the Centurion range with the added ability of accepting three phase power to its input.

Like the Centurion range, the 3/1 range boasts the same User friendly LCD display that allows the operator to interrogate and program the UPS on the front panel as well as with the included software. It also has a small footprint which will fit any tight space requirement.

It can also be configured to be a single phase in and single phase out UPS.

Models come standard with internal batteries. If a longer back up time is required, the long run models with extra large chargers are available.

applications include:

- critical servers
- small networks
- critical IT applications
- PLCs
- telecom applications
- security equipment
- manufacturing
- balancing loads



Centurion 3/1



features

- True online double-conversion
- DSP technology guarantees high performance
- Wide input voltage range (110-300Vac)
- Input power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- Eco mode operation for energy saving (ECO)
- Programmable power outlets
- Emergency power off function (EPO)
- Generator compatible
- USB+RS232 + SNMP + AS400 multiple communications
- Maintenance bypass available
- N+X parallel redundancy available
- Available in Single Phase configuration

CENTURION THREE PHASE/SINGLE PHASE			
Model		PSCE10KL3/1	
Capacity		10000VA / 8000W	
		20000VA / 16000 W	
INPUT			
Phase		Three phase in/one phase out	
Voltage (Nominal)		240/415Vac (User Selectable)	
Voltage Range	Low Line Transfer	176VAC (phase voltage)@ 100% load 110VAC (phase voltage) @ 50% load	
	Low Line Comeback	186VAC (phase voltage) @ 100% load 120VAC (phase voltage) @ 50% load	
	High Line Transfer	276VAC (phase voltage) @ 100% load 300VAC (phase voltage) @ 50% load	
	High Line Comeback	266VAC (phase voltage) @ 100% load 290VAC (phase voltage) @ 50% load	
Frequency Range		46~54 Hz or 56~64Hz	
Power Factor		0.99 @ 100% load	
THDi		< 6% @ 100% load	
OUTPUT			
Voltage (ac mode)		240Vac (208, 220, 230Vac user selectable)	
AC Voltage Regulation (Batt. Mode)		± 1%	
Frequency Range (Synchronized Range)		46~54Hz or 56~64Hz	
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz	
Current Crest Ratio		3:1 (max.)	
Harmonic Distortion		2 % THD (linear load) ; 5 % THD (non-linear load)	
Transfer Time	AC Mode to Batt. Mode	zero	
	Inverter to Bypass	zero	
Waveform (Batt. Mode)		Pure Sine Wave	
EFFICIENCY			
AC Mode		89%	
Battery Mode		86%	87%
BATTERY			
Standard Model	Battery Type	12V/9AH	
	Numbers	20	40
	Typical Recharge Time	9 hours recover to 90% capacity	
	Charging Current (max.)	1A	2A
	Charging Voltage	273Vdc	
Long-run Model	Battery Type/Numbers	Depending on the capacity of external batteries	
	Charging Current (max.)	4A	8A
	Charging Voltage	273Vdc	
INDICATORS			
LCD Panel		UPS status, load level, battery level, input/output voltage, discharge timer, and fault conditions	
ALARM			
Battery Mode		Sounding every 4 seconds	
Low Battery		Sounding every second	
Overload		Sounding twice every second	
Fault		Continuously sounding	
PHYSICAL			
Standard Model	Dimensions (D x W x H)	(592 x 250 x 576)mm	(815 x 250 x 826)mm
	Net Weight	83kgs	164kgs
Long-run Model	Dimensions (D x W x H)	(592 x 250 x 576)mm	(592 x 250 x 576)mm
	Net Weight	28kgs	37kgs
ENVIRONMENT			
Operation Humidity		0-95 % RH @ 0- 40°C (non-condensing)	
Noise Level		Less than 58dB @ 1 meter	
MANAGEMENT			
Smart RS232/USB		PowerShield® NetGuard® software supports Windows®, Linux, Unix, and MAC	
Optional SNMP		Power management from SNMP manager and web browser	
	LOAD	PSCE10KL3/1	PSCE20KL3/1
UPS BACKUP	50%	17 minutes	16 minutes
	100%	5 minutes	5 minutes
+BB40	50%	60 minutes	48 minutes
	100%	25 minutes	16 minutes
+BB60CH	50%	145 minutes	80 minutes
	100%	60 minutes	35 minutes
+BB40	50%	200 minutes	105 minutes
	100%	95 minutes	50 minutes

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7
* Models ending in "L" are long run models with larger chargers and therefore have no internal batteries

The PowerShield® Platinum UPS range is designed with Australian conditions and requirements in mind. The technology is based on a tried and tested platform ensuring reliability and performance.

The Platinum is designed to be used in a wide range of applications from data centres to manufacturing, hospitals, military and mining environments to name a few. It provides the best power solution for your critical equipment.

This sophisticated UPS comes with a colour touch screen interactive LCD display which gives information on the unit's operation. With its compact footprint it allows installation in limited space environments. This is a natural choice for a centralised UPS solution.

True online battery configuration eliminates the need for a DC to DC converter. This results in a higher reliability (MTBF) and much higher running efficiency. The net result of this means the total cost of ownership of this product is drastically reduced, resulting in huge dollar savings.

Platinum



features

- Easy to use colour touch interactive LCD for information display, alarm and control
- Centralised DSP controller coordinates the PFC rectifier and inverter
- Switching frequency: 15kHz – less noise (higher frequency)
- Input Power Factor correction ensures low THDi
- IGBT technology in the Inverter and Rectifier
- Configurable to 3/3, 3/1, 1/3, 1/1 (factory)
- External Maintenance Bypass Switch optional
- SNMP, Modbus and Dry Contact cards included as standard



PLATINUM						
Model	PSP15K	PSP20K	PSP30K	PSP40K	PSP60K	PSP80K
Capacity	15kVA/12kW	20kVA/16kW	30kVA/24kW	40kVA/32kW	60kVA/48kW	80kVA / 64kW
INPUT						
Nominal voltage (Vac)	220/380, 230/400, 240/415 (3Ph + N)					
Input voltage Range	+15% or -20%					
Frequency	50/60 Hz ± 5 %					
Total Harmonic Distortion (THDi)	< 1.5% @ 100% load < 2.5% @ 50% load		< 1.0% @ 100% load < 2.0% @ 50% load			
Power Factor	1.0					
OUTPUT						
Nominal Voltage (Vac)	220/380, 230/400, 240/415 (3Ph + N)					
Precision	Stationary: ±1% Transitory: ±2% (load variations 100-0-100%)					
Frequency	50/60 Hz synchronised ±4 % With mains absent ±0.05%					
Waveform	Pure Sinewave					
Total Harmonic Distortion (THDv)	<0.5% (Linear Load) <1.5% (Non-linear Load)					
Phase Displacement	120° ±1% (balanced load) 120° ±2% (imbalances 50% of the load)					
Admissible overload	125% for 10 min., 150% for 60 s					
Load Crest Factor	3.4 : 1		3.2 :1			
Admissible power factor	0.1 inductive to 0.1 capacitive					
Output voltage imbalance with a 100% unbalanced load	<1%					
Current limit protection	High overload, short-circuit: RMS Voltage Limit High Crest-Factor current: Peak Voltage Limit					
Efficiency AC-AC	90%	91%	92%	93%	93%	94%
Efficiency DC-AC	95%	95%	96%	96%	96%	96%
STATIC BYPASS						
Type	Solid state					
Activation Criteria	Microprocessor control					
Transfer Time	Zero					
Admissible overload	400% for 10 sec.					
INTERNAL MAINTENANCE BYPASS						
Type	Without interruption					
Nominal voltage	220/380, 230/400, 240/415 (3Ph + N)					
Frequency	50/60Hz					
COMMUNICATIONS						
Interface (Included)	RS232, RS485 (Modbus), AS400, SNMP					
Software	PowerShield® NetGuard® Software - Supports Windows Based Operating Systems, Linux & Unix					
PHYSICAL						
Dimensions (D x W x H)	(700 x 450 x 1100) mm		(805 x 590 x 1320) mm			
Weight (without batteries)	120kg		190kg		200kg	300kg
Built-in Batteries Type (2x31)	12V*9AH	12V*9AH	12V*12AH	12V*18AH	-	
Back-up Time (minutes)	18min	12min	10min	14min	-	-
Weight (w/built-in batteries)	250kg	250kg	530kg		-	-
EXTERNAL BATTERY CABINET – based on load with PF=0.8 and no internal battery in UPS						
Battery Cabinet Model	PSBB62/12		PSBB62/26			
Dimensions (D x W x H)	(700 x 450 x 1100) mm		(980 x 650 x 1320) mm			
Type (2x31)	12V*12Ah		12V* 26Ah			-
Back-up time	29min	16min	27min	18min	9min	-
Weight	250kg		710kg			-
Battery Cabinet Model	PSBB62/18		PSBB62/40			
Dimensions (D x W x H)	(700 x 450 x 1100) mm		(980 x 650 x 1320) mm			
Type (2x31)	12V*18AH		12V*40AH			
Back-up time	55min	28min	51min	37min	19min	12min
Weight	410kg		1020kg			

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

Unlike conventional stand-alone UPSs this sophisticated Power+ SA UPS is scalable from 10kVA to 40kVA. Besides the benefit of allowing for your UPS to expand with your growing requirements, it also provides the benefit of N+1 and N+2 redundancy options. It is scalable in increments of 10kVA, 20kVA, 30kVA and 40kVA. Its ultra-small footprint and superior efficiency makes this sought after UPS boast an extremely low TCO (Total Cost of Ownership) and hence high ROI (Return on Investment).

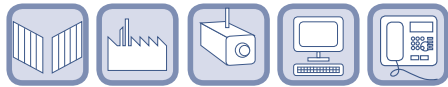
Lower TCO and increase ROI:

- Save on purchasing and installation costs
- Save on electrical consumption costs
- Save on maintenance costs
- Save on spacing costs
- Save on cooling costs
- Save on generator costs



Power+ SA Series

Stand Alone On-line Double Conversion UPS
10kVA to 40kVA



features

- Compact size with ultra high power density
- True green power and high efficiency 96% AC/AC
- User friendly: frequency / voltage / phase configurable on site via LCD interface
- True on-line batteries
- Power+ controller: full remote UPS management, automatic server shutdown, and alerts.
- Stand Alone scalable 10kVA, 20kVA, 30kVA or 40kVA
- External battery cabinets available
- N+1 and N+2 redundancy options

POWER+ SA				
Model	PPSA10K	PPSA20K	PPSA30K	PPSA40K
Capacity	10kVA / 8kW	20kVA / 16kW	30kVA / 24kW	40kVA / 32kW
INPUT				
Voltage	220/380, 230/400, 240/415 (3Ph + N) (Selectable)			
Input voltage Range	+20% or –27%			
Frequency	45 - 65 Hz			
Power Walk-In	< 60 s			
Power Factor	1.0			
THDI	<5%			
Earth Leakage Current	3mA			
OUTPUT				
Nominal Voltage (Vac)	220/380, 230/400, 240/415 (3Ph + N) Selectable			
Frequency Tracking Range	+/- 0.5, +/- 1, +/- 2, +/- 3, +/- 4Hz (Selectable)			
Slew Rate	1Hz / sec			
Frequency	50Hz			
Static Regulation	+/-1%			
Regulation for Unbalanced Load	+/-1% for 100% Unbalanced load Dynamic Response			
Dynamic Response to 100% Load Step	2%			
Load Crest Factor	6 : 1			
Overload	110% for 10min; 125% for 60sec; 1000% for 1 cycle			
Waveform	Sinusoidal			
THD	Less than 2% for linear load			
Efficiency AC-AC	96%			
Efficiency DC-AC	98%			
STATIC SWITCH (Bypass)				
Input Connection	Dual feed			
COMMUNICATIONS				
Interface (Included)	RS232, RS485 (Modbus), AS400, SNMP			
Software	Shutdownagent.net			
PHYSICAL				
Dimensions (D x W x H)	(580 x 480 x 660)mm			
Weight	42kg	50kg	59kg	68kg
OPERATING ENVIRONMENT				
Maximum Heat Dissipation (Load = 8KW)	384W (1300 BTU/h)	666W (2274 BTU/h)	999W (3408 BTU/h)	1332W (4544 BTU/h)
Ambient Temperature	-10 C to +40 C (operating); -20 C to +70 C (storage)			
Relative Humidity	95% (Non-condensing)			
Altitude	1500m without derating			
Enclosure	IP20			
Cooling System	Multi-fan speed control (forced)			
Acoustic Noise (Full Load) at 1.5m distance	47dBA	54dBA	57dBA	
MTBF	250,000 Hours			
COMPLIANCE				
EMC	IEC 62040 - 2, under EMC 2004 / 108 / EC			
Design	IEC 62040 - 3			
Safety	IEC 62040 - 1, under LVD 2006 / 95 / EC			
Low Magnetic Field Radiation	EMF as per ICNIRP			
BATTERIES				
Type	Sealed, valve regulated, lead-acid			
Number	64 x 12V			
Battery Cabinet	External			

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

Power+ is an electrically and mechanically modular 10kVA to 100kVA UPS system, uniquely designed with flexibility to grow as power requirements grow. Easily upgradable on-site through addition of plug-and-play 10kVA modules, Power+ offers the optimal combination of efficiency, economy and usability, while it boasts the industry's lowest TCO (Total Cost of Ownership) and fastest ROI (Return on Investment).

Each 10kVA module is entirely self-contained and ready for hot-swapping, without complex and expensive stocks of components, subsystems, and spare parts. Weighing only 9kg and measuring vertically 2U, the lightweight 10kVA Power+ modules can easily be replaced by a technician. The Power+ is configurable to 3/3, 3/1, and 1/1 phases.



Power+ Classic
10kVA to 100kVA



features

- Optional form factors- Power+ Classic, Power+ Rack Mount,
- Power+ 19" (see above)
- True online double conversion
- Efficiency up to 96%
- Small footprint and light weight
- N+1 and N+2 redundancy horizontal and vertical
- Low MTTR, High MTBCF (707882 Hrs)
- Sophisticated control system
- User friendly hot swappable modules
- Scalability – "Pay as you grow"
- UL approved ISO 9001 compliant
- Configurable as 3/3, 3/1 and 1/1 phases



POWER+										
Model	10kVA	20kVA	30kVA	40kVA	50kVA	60kVA	70kVA	80kVA	90kVA	100kVA
Topology	True online battery, double-conversion VFI									
Construction	Modular: parallel hot-plugged modules; continuous operation									
INPUT										
Voltage	3 × 380/400/415Vac +N +PE (5 wire system)									
Voltage range	-27% and +20%									
Current	3 × 15A per module – no inrush current at startup									
Frequency	47Hz ~ 63Hz									
Power Factor	1									
THDI (%)	<5%									
OUTPUT										
Rated Power	10 kVA / 8 kW to 100 kVA / 80 kW									
Frequency (in free-running mode)	50/60Hz ±0.1%									
Frequency tracking range	± 0.5, ±1, ± 2, ± 3, ± 4Hz (selectable)									
Slew rate	1 Hz/sec									
Voltage	3 × 380/400/415Vac (selectable) +N +PE									
Static Regulation	±1 %									
Regulation for unbalanced load	±1% for 100% unbalanced load									
Dynamic response to 100 % load step	± 2%, <1 ms recovery time									
Overload	110% : 10min; 125% : 60s; 1000% :1 cycle									
Waveform	Sinusoidal									
THD	Less than 2% for linear load									
Load CF (max)	6:1									
AC-AC efficiency (nominal)	Up to 96%									
DC-AC efficiency (nominal)	Up to 98%									
BATTERIES										
Dc nominal voltage	± 432									
Quantity per set	64 ×12V									
Type	Sealed, lead acid, rechargeable									
GENERAL										
Maximum power dissipation (Po=8 kW)	333 W (1136 BTU/h) for a single module									
Ambient temperature	-10 to +40°C (operating)									
Relative humidity	-20 to +60°C (storage)									
Altitude	95% max (non-condensing)									
Enclosure	1500m without derating									
Cooling system	IP20									
STANDARDS										
EMC	IEC 62040 - 2, under EMC 2004/108/EC									
Design	IEC 62040-3									
Safety	IEC 62040 - 1, under LVD 2006/95/EC									
Low magnetic field radiation	EMF as per ICNIRP									
DIMENSIONS										
One 10 kVA module (D x W x H)	(455 x 483 (19”) x 88 (2U)) mm									
Weight	9 kg									
ACOUSTIC NOISE (@ 1.5 m from front of unit)										
Noise (dBA) with half load	48	52	53	54	55	55.8	56.4	57	57.5	58
Noise (dBA) with full load	51	54	55	57	58	58.8	59.4	60	60.5	61
Power+ Classic										
Dimensions (690 x 600 x H) mm	690	790	880	970	1070	1160	1250	1350	1440	1540
Weight	98kg	113kg	128kg	143kg	158kg	173kg	188kg	203kg	218kg	233kg
Power+ RM										
Dimensions (D x W x H)	1000 x 600 x 2020) mm									
Weight	98kg	113kg	128kg	143kg	158kg	173kg	188kg	203kg	218kg	233kg
Power+ 19”										
Dimensions (600 x 483 x H) mm	177	266	-	-	-	-	-	-	-	-
Weight	20kg	32kg	-	-	-	-	-	-	-	-

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7

The Mega Power⁺ brings a new paradigm to the UPS world. This truly modular UPS allows for expansion in increments of 25kW up to 500kW. This scalability enables the user or designer unprecedented flexibility to size the UPS for today and for the future.

Modules are all self-contained and are hot swappable. By using a N+1 or N+2 configuration, down time is almost non-existent (MTBCF= 707882).

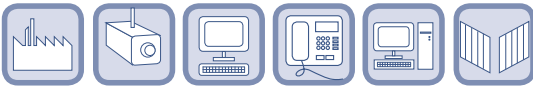
Furthermore the state of the art user friendly touch screen controller is also hot swappable and will not affect the operation of the UPS.

At an exceptional efficiency of 96% this Mega Power⁺ provides significant energy and cooling savings, hence making your overall TCO (Total Cost of Operation) significantly lower than others.



Mega Power⁺

Modular UPS System



features

- True Modular Capabilities available in 25kVA/kW increments to 500kVA/kW
- Modules are entirely self-contained and hot-swappable
- Ideal for N+1 or N+2 redundancy
- User Friendly State of the Art Colour Touch Screen Controller
- Delivers Unity Output Power Factor suitable for capacitive loads, such as blade servers (PF = 1)
- The Highest Power Density to Smallest Footprint ratio in the industry
- Delivers almost zero MTTR (Mean Time To Repair), which results in the best service with minimal costs.
- Built in SNMP/TCIP & optional GPSR/SMS interface providing complete control over UPS
- Lowest TCO



"7" TFT LCD colour monitor with touch screen



MEGA POWER ⁺											
Construction		Modular parallel hot-swapped modules									
INPUT											
Voltage		3 x 415Vac + N									
Voltage range		-20% and +15%									
Current		3 x 42Amp per module - no inrush current at startup									
Frequency		47~63Hz									
Power walk-in		<60 sec (Generator friendly)									
Power factor		0.99									
THDI		< 5%									
OUTPUT											
Rated power		25kVA / 25kW to 500kVA / 500kW									
Frequency (in free-running mode)		50/60Hz ±0.1%									
Frequency tracking range		±1Hz, ±2Hz, ±3Hz (selectable)									
Slew rate		1Hz/sec									
Voltage		3 x 415Vac + N									
Static regulation		±1%									
Regulation for unbalanced load		±1% for 100% unbalanced load									
Dynamic response to 100% load step		±2%									
Overload		110%: 10 minutes, 125%: 60 seconds, 1000%: 1 cycle									
THD		< 2% for linear load									
Load Crest Factor		6:1									
AC-AC efficiency (nominal)		Up to 96% at full load									
DC-AC efficiency (nominal)		Up to 98% at full load									
BATTERIES											
Quantity per set		60 x 12V									
Type		Sealed, lead acid, rechargeable									
GENERAL											
Display		7” TFT LCD colour monitor with touch screen									
Maximum power dissipation (Po=25kW)		1041 W per module (3552 BTU per module)									
Ambient temperature		-10°C to +40 oC (operating); -20°C to +60°C (storage)									
Relative humidity		95% max (non-condensing)									
Altitude		1500 m without derating									
Enclosure		IP20									
COMPLIANCE											
EMC		IEC 62040-2									
Design		IEC 62040-3									
Safety		EC 62040 - 1									
Low freq. magnetic field radiation		EMF as per ICNIRP									
SYSTEM WEIGHT AND DIMENSIONS											
Mega Power ⁺ 125											
System Dimensions (D x W x H)		(655 x 670 x 1270) mm									
UPS capacity (kW)		25	50	75	100	125					
UPS weight (kg)		147	180	213	246	279					
Mega Power ⁺ 250											
System Dimensions (D x W x H)		(655 x 670 x 1970) mm									
UPS capacity (kW)		25	50	75	100	125	150	175	200	225	250
UPS weight (kg)		190	223	256	289	322	355	388	421	454	487
Mega Power ⁺ 500											
System Dimensions (D x W x H)		(655 x 220 x 1970) mm									
UPS capacity (kW)		100	125	150	175	200	225	250			
UPS weight (kg)		630	665	700	735	770	805	840			
UPS capacity (kW)		350	375	400	425	450	475	500			
UPS weight (kg)		980	980	1050	1085	1120	1155	1190			
MODULE WEIGHT AND DIMENSIONS											
Weight		33kg									
Capacity		25kVA / 25kW									
Dimensions (D x W x H)		(655 x 455 x 135)mm									

* Specifications are subject to change without prior notice.
* UPS output capacity is calculated at PF = 0.7



features

-

* Product specifications are subject to change without further notice

The diagram illustrates the connectivity options for the NetSwitch Master and Slave units. The central components are a stack of four units: one NetSwitch Master and three NetSwitch Slaves. The Master unit is labeled 'Daisychain up to 16 units' and 'NetSwitch Master'. The Slaves are labeled 'NetSwitch Slave'.

Connection Options:

- Environment sensors:** NetFeeler II Event occurs (Turns outlet on/off when triggered).
- RF Smoke/gas sensor:** RF security sensor.
- USB support:** USB thumb drive (Data storage).
- USB support:** USB wireless (T802.11 b/g).
- GPRS option:** GPRS modem (For sending SMS).
- UPS enabled feature:** UPS event (shutdown outlets on AC fail, batt low, etc.).
- PSTN support:** Telephone (control via key sequence).
- UPS back-up power:** Connect to UPS (emergency power).
- Network access:** Router, User access (thru HTTPS, Telnet, SNMP).

Physical Connections:

- Phone line:** Connects to the Master unit.
- Power Input:** Connects to the Master unit.
- RS232:** Connects to the Master unit.
- LAN:** Connects to the Master unit.
- USB type A to B / USB to RS232 cable:** Connects to the Master unit.

The PowerShield® Automatic Transfer Switch (ATS) is designed with two independent power inlets to supply power to the load from a primary or secondary power source. Should the primary power source fail, the secondary will automatically supply power to the connected equipment. The transfer time from one power source to the other is seamless to the connected equipment. After switching to a secondary power source, the ATS can also switch power back to the primary input when power to the primary input is restored.

The PowerShield® ATS is designed to provide redundancy using a “break before make” technology. This means that in the event of a short-circuit on one of the power sources, the fault will not be able to affect the alternative power source. This switch ensures that power is transferred from one source or the other, never an overlap that may affect reliability. In the unlikely event of a fault in the ATS power supply, the ATS continues to supply from the remaining available source.

Automatic Transfer Switch

features

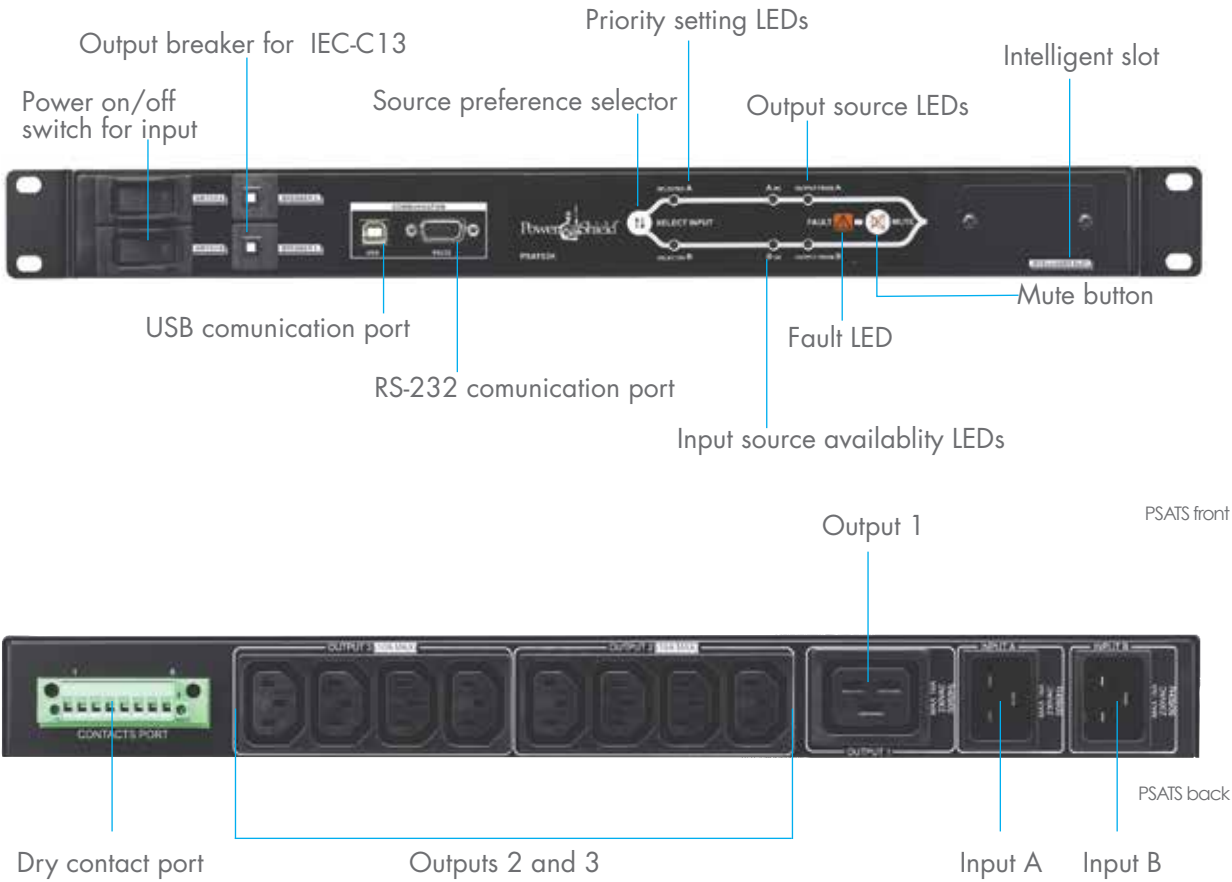
- Critical load (server) has reliability of two independent power sources
- Ideal for ensuring reliable power to critical devices that have only a single power supply
- User selectable power source from front panel
- Dual power supply for redundancy
- Provides seamless power switch for IT equipment
- Highly reliable 19" (1RU) rack design to fit into diverse working environment
- Built-in USB and RS232
- SNMP and AS400 option available for remote monitoring
- Two year warranty



AUTOMATIC TRANSFER SWITCH	
INPUT	
Input Voltage	220/230/240Vac
Acceptable Input Voltage	180 - 258Vac
Input Frequency	50Hz / 60Hz
Maximum Input Current	16A
OUTPUT	
Output Voltage	220/230/240Vac
Maximum Output Current	10A for IEC-C13 outlets 16A for IEC-C19 outlet
CONNECTION	
Input	2 x IEC-C20 inlets
Output	8 x IEC-C13 1 x IEC-C19
Communication	USB/RS232/ AS400/Optional SNMP
Communication Included	USB, RS232 and AS400
Communication Optional	SNMP card
Transfer time	9 ms (typical)
PHYSICAL	
Dimensions (D x W x H)	(330 x 483 x 44) mm
Net Weight	5kgs

* Product specifications are subject to change without further notice

System Configuration



Maintenance Bypass Switches

Maintenance Bypass, Hot Swap and PDU

Suites all UPS up to 3kVA

- No downtime. Routine maintenance can be performed during normal hours by simply switching the MBS to the "Bypass" position. The load is then fed directly from mains power while maintenance is performed or the UPS is replaced all without interruption.
- PDU (power distribution unit). The MBS has six outlets for distribution to your load. See spec below
- Rackmount. It can be mounted both horizontally or vertically (ORU) into a rack
- Wallmount as an option either vertically or horizontally to a wall
- Suitable for both line interactive and true online double conversion topologies



PSMBS2K



PSMBS3K

MBS for PowerShield® UPS 1-3KVA

Model	PSMBS2K	PSMBS3K
UPS Rating	1-2KVA	3KVA
Input - plug	10Amp (Australian)	15Amp (Australian)
- lead	10Amp Australian lead (x1)	15Amp Australian lead (x1)
Output -Master sockets	IEC 10Amp (x1) (Not used)	IEC 16Amp (x1)
- Slave sockets	IEC 10Amp (x6)	IEC 10Amp (x6)
- UPS leads	IEC 10A-10A cable (x2)	IEC 16A-16A cable (x2)
Dimensions (D x W x H)	(80 x 440 x 50)mm	(80 x 440 x 50)mm

Maintenance Bypass and Hot Swap

Suites all Centurion UPS from 6kVA to 20kVA

- Three positions: "UPS", "Bypass", "Bypass & Isolate"
- No downtime. Routine maintenance can be performed during normal hours by simply switching the MBS to the "Bypass" position. The load is then fed directly from mains power while maintenance is safely performed on the UPS.
- UPS can be completely removed from the circuit simply by switching the MBS to the "Bypass & Isolate" position. The load is then fed directly from mains power and at the same time there is no voltage present at the UPS inputs or outputs so it is safe to work on.
- Mechanical interlock is standard. This eliminates the possibility of incorrect switching sequences and hence possible damage to the UPS and injury to personnel
- The MBS is "Make Before Break." Therefore there will be no power interruption to your load while the MBS is being operated



PSCERMBS6K



PSCEMB10K

MBS for PowerShield® Centurion's 1-20KVA

Model	PSCEMB6K	PSCERMBS6K	PSCEMB10K	PSCERMBS10K	PSCEMB10K3/1	PSCEMB20K3/1
UPS Rating	6KVA	6KVA	10KVA	10KVA	10KVA	20KVA
Input (Nominal)	240Vac	240Vac	240Vac	240Vac	240/415Vac	240/415Vac
Input plug	Hard Wire					
Output (Nominal)	240Vac					
Output sockets	Hard Wire					
Style	Wallmount	Rackmount	Wallmount	Rackmount	Wallmount	Wallmount
Dimensions D x W x H	150 x 290 x 200mm	430 x 90 x 200mm	150 x 290 x 200mm	430 x 90 x 200mm	220 x 300 x 150mm	300 x 400 x 200mm

Customised Maintenance Bypass Switch (MBS)

Because there are so many possible variations that can be applied to the way an MBS is to function, our engineering team will design a solution to suite you, our customer. Our customised solutions will include all options, eg Wrap Around or Change

Over, 2, 3, 4 or 5 positions, mechanical interlock or solenoid. Whatever is required.

For customised solutions please feel free to contact one of our friendly engineers.



PSMBS40K

Power Distribution Units

PowerShield® offers two ranges of Power Distribution Units (PDUs). Our PDUs are highly reliable, multiple outlet power strip designed to deliver conditioned power to mission-critical networking, server or telecom equipment often used in conjunction with an uninterruptible power supply (UPS). In a networking environment, devices need to be powered continuously, either from a whole site generator or rack mounted UPS power source, and since many networking devices in use today are fitted with dual redundant power inputs, with many requiring two power sources to further mitigate the risk of power failure.

Basic PDU Range

This line of PDU offers simple but highly reliable power distribution to multiple pieces of equipment in a network application. A PDU of this type is important for the purpose of providing enough outlets for the many devices that are commonly installed into a rack enclosure from a conditioned power source such as a UPS or generator/centralized UPS power distribution scheme. This durable range comes in a 6 way and 10 way Horizontal Power rail with a 10 amp reset button. Pictured below is the 6 way and 10 way horizontal PDU. Also available in a 20 way vertical model.



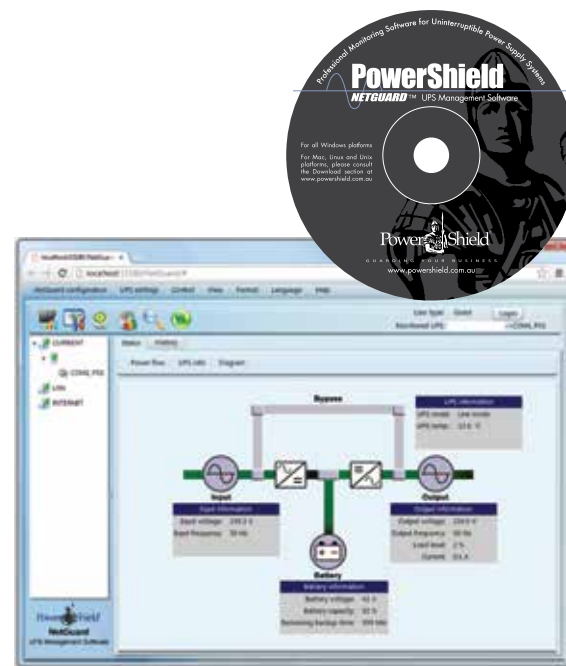
Surge Protected PDUs

PowerShield also offers a range of surge protected PDUs. These come standard with a mixture of Australian and IEC sockets making it versatile while offering an indicator for each circuit showing the fault condition. The range is equipped with 1140 joules and 39,000 Amps of surge protection. With two circuits, the rail can partially operate after a surge event. This range is either front or rear rack mountable and comes in two sizes: Horizontal (7 Australian sockets with 4 IEC sockets) and Vertical (14 Australian sockets with 8 IEC sockets).



While PowerShield UPSs do their job of holding up critical electronic equipment, behind the scenes PowerShield proprietary software and management cards are there to record critical power events so that managers can be aware and informed of problems in real time.

The software solutions allow for automatic graceful shutdown of programs and devices if power outages last longer than their nominated time, while SNMP cards allow for remote monitoring of a UPS from anywhere with internet access.



Power Shield Software

NetGuard®

NetGuard® is a sophisticated UPS management software application which is perfect for the SOHO user, right up to larger enterprises. NetGuard® can monitor and manage one or many UPS in a networked environment, either via LAN or INTERNET. NetGuard® can not only prevent data loss from power outages by safely shutting down computer systems, but it also stores programming data and can perform scheduled shutdowns of UPS. NetGuard® includes the NetGuard® service, NetGuard® GUI and NetGuard® icon. NetGuard® service is the core of the NetGuard® software. This is a system program that runs as a background task. This will communicate with the UPS, record events, notify users with UPS alarms, and execute commands according to the user's parameters. NetGuard® is managed with a standard web browser, Internet Explorer, Firefox or similar. Administrators can monitor UPS for real-time status information or modify UPS parameters to suit the user needs. Supported operating systems are; Windows, Linux, Mac and more. PowerShield UPS models that include the NetGuard® software are; CompuGuard®, SafeGuard, Defender, Centurion, Centurion RT and Commander RT.

Power Shield Management Cards

PSSNMP - SNMP/Relay (AS400) Communications

When UPS communications beyond the included RS232/USB are required, network or relay communications are available as optional PSSNMP add-on cards. The SNMP – Simple Network Management Protocol card allows the UPS to be directly connected to the network without the need of a local computer or server. With the included software, UPS information and alarms can be received by any computer that can be reached via an IP connection. This will provide a complete dialogue of UPS status and health. When a power event occurs, informational alarms can be broadcast to nominated computers. As this dialogue is comprised of a compliant SNMP transport, any SNMP trap collection software can log the UPS events. Extending the SNMP card to detect remote temperature and humidity via external sensors are available for some SNMP card models.



PSSNMP DT801

PSAS400

The Relay (AS400) card provides VFC – (Volt Free Contact) relays that change state upon UPS events. This type of card is often used when current loop communications are required for devices such as, BMS – Building Management Systems, Access Control Alarm Panels or Industrial PLCs. The events that can be detected are, Mains Failure & Restore, Battery Normal or Low, UPS Normal or Bypass, UPS Summary Alarm.



PSAS400

PSModbus

The PowerShield Modbus card facilitates UPS communication with industrial and building management systems using Modbus RTU Protocol. PSModbus card provides real time monitoring and control of multiple UPSs or inverters via the RS485 communications port.



PSModbus

PSEMD- Netfeeler

The PowerShield Environmental Monitoring Device (PSEMD) is suited for monitoring ambient temperature, humidity and water ingress. Optional dry contact relay inputs are available upon request. Email alerts and or system shutdown can be initiated if the user defined thresholds are exceeded.



PSEMD- Netfeeler

Conformal Coating

Although PowerShield® products are designed by Australians for Australian conditions, there are some conditions that are more challenging than others. Because many of our UPSs are in mine applications, we are sensitive to the particular attributes that they have. The dust from mines often has metallic qualities that can short circuit electrical devices and components.

For situations in which our UPSs are in dusty or misty environments, we offer conformal coating. The standards and procedures used to perform this service are ASTM B826-03 (Standard Test Method for Monitoring Atmospheric Corrosion Tests by Electrical Resistance Probes) and ISA 71.04 (Instrument Society of America Standard ISA-71.04 "Environmental Conditions for Process Measurement and Control Systems: Airborne Contaminants"). The procedure is extensive and involves conformally coating all printed circuit boards including the backplane with a military specified coating containing corrosion inhibitors; protection to all plugs and sockets within each module and protecting all external connectors with a thin film of a synthetic grease compound.

Power Shield is committed to providing products that greatly improve the reliability of electronic and electrical systems. The Power Shield conformal coating reduces corrosion that causes up to 60% of failures in dusty and misty applications. For peace of mind, it is best for the UPS user that you have your equipment conformally coated.

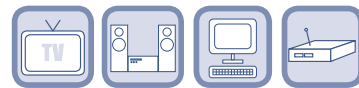


When searching for affordable Powerboards, PowerShield® is proud to have a family of options. The filter range provides piece of mind as it will respond within nanoseconds saving devices from surges and spikes that will damage sensitive components by diverting or absorbing power transients.

There are powerboards for all levels and types of protection. They all take into consideration proper spacing for transformer based plug packs. The range starts at the basic level to a specialist AV powerboard that saves electricity and provides top protection.

Your UPS is protecting your sensitive equipment and may sacrifice itself when taking a large spike, but what is protecting your UPS? A PowerShield® filter should always be used when guarding equipment that requires protection but does not need a UPS.

ZapGuard® Surge Boards



ZapGuard® PSZ6NT

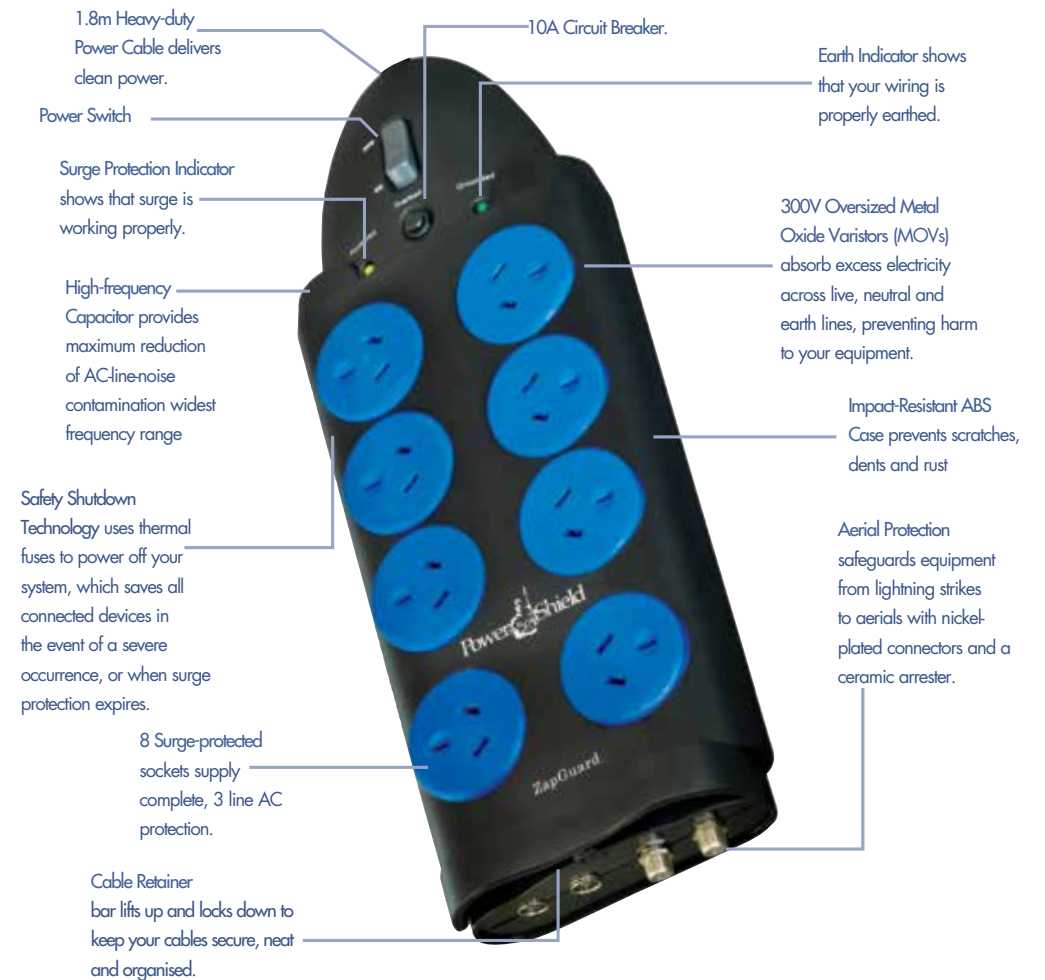
The ZapGuard® PSZ6NT is an ultra-modern and stylish powerboard is equipped with, six outlets and Telephone / Network protection. This high spec ZapGuard® is the trusted option for providing real protection for your valued and sensitive electronic equipment eg photocopiers, printers, computers etc.



PSZ6NT	
Maximum energy absorption	1,494 Joules
Maximum surge current	43,500Amps
Response time	<1 nanoseconds
Indicators	Green LED—outlets are protected
Overload protection	10Amp Circuit breaker
Inlet cable	1.8m
Telephone / Network protection	Telephone, Fax, ADSL, XDSL, VDSL
Warranty	5 years

ZapGuard® PSZ8AV1

The ZapGuard® PSZ8AV1 is a state of the art powerboard that is equipped with eight outlets, both Aerial type coax connectors as well as F-type connectors. Designed with the highest surge protection spec in mind and wide noise attenuation range this ZapGuard® has been engineered to provide you with the highest level of protection and optimum performance for your valued and sensitive Home Theatre.



PSZ8AV1	
Maximum energy absorption	4,090 Joules
Maximum surge current	110,000Amps
Noise attenuation	150KHz – 100MHz up to 75dB
Response time	<25 nanoseconds
Coax aerial protection	Included
F-Type protection	Included
Indicators	Green LED – Grounded
Indicators	Yellow LED – outlets are protected
Switch	On/Off rocker switch
Overload protection	10Amp Circuit breaker
Inlet cable	1.8m
Warranty	5 years
Connected equipment warranty	\$95000.00

Case History

TXA is Australia's leading broadcast transmission facilities and service provider in the five mainland metropolitan capital cities of Australia. Their infrastructure caters for the analogue and digital television transmission of the commercial metropolitan television networks, the national television broadcasters, FM radio and Digital Audio Broadcasting.

TX Australia Pty Limited (TXA) is a joint venture company owned equally by the three commercial metropolitan television networks, Seven, Nine and Ten. The company owns, operates, manages, engineers, maintains and markets transmission and retransmission facilities in the Australia's mainland capital cities.

TXA was formed in 1999 to take over responsibility for the analogue television transmission services of the Networks and to upgrade the transmission infrastructure to cater for the introduction of digital television from 1 January 2001 in compliance with the Commonwealth Government Legislation.

TXA provides television transmission for the Networks, as well as access for the national broadcasters transmission provider and for regional broadcasters in overlap service areas. The firm also leases vertical real estate on the tower and reserved areas at ground level at its sites, for the installation of equipment owned and operated by third parties. These include FM radio broadcasters, telecommunication carriers, Internet Services Providers and emergency communication service providers.

Project management and technical maintenance services are also offered by TXA in support of its third party clients. Their highly qualified and experienced technical staff are available for maintenance, installation and project management to support client's requirements.

TXA provide access to their infrastructure for telecommunication / data services, point to point microwave, Internet Service Providers, community broadcasters, emergency services and emerging technology applications.

Bussines Needs

Because the TXA broadcast transmission facilities equipment is computer based, even momentary power problems can result in the loss of critical on air broadcast time during computer recovery. Furthermore, a large percentage of the transmission equipment is unmanned for extended periods - over weekends and throughout the working week and in some rural areas the equipment is almost permanently unmanned, with site access available on an infrequent basis at best. By necessity the monitoring of that equipment is carried out remotely and hence the need for highly reliable, fail safe digital transmitting equipment operation.

How Powershield Helped

TXA engaged Power Shield as the company that could provide expert advice on solutions for their specific requirements and a product which was suitable for deployment in their mission critical environments.

Initially Power Shield tendered a range of 3kVA to 10kVA UPS equipment for the transmitting equipment. As the TXA live transmission complex power needed to operate in a fail-safe mode, the UPS equipment needed to be further complemented by Automatic Transfer Switches (ATS). They are required to automatically detect less than optimal utility power specifications and switch over to secondary backup utility power circuits when called on to do so with reliability. The Power Shield ATS equipment went further than the original brief - of simply providing UPS backup power to the TXA remote sites - having now been integrated into the TXA remote monitoring and control telemetry systems. They provide feedback on both the operational status of UPS and power circuits supplying their digital transmission equipment in live broadcast environments. Knowledge of the particular primary or secondary circuit being used to power the equipment is provided by the ATS equipment directly to TXA.

Result

Christopher Welsh, National Engineering Manager at TX Australia, puts it well:

"We are confident that regardless of the power supply problems we encounter at our urban and rural transmission sites, the broadcasts will continue without interruption. It is not uncommon, especially in country installations Australia wide to suffer several mains power "glitches" and widely out of specification utility power variations in voltage that threaten digital equipment operation. We feel safe in the knowledge that Power Shield UPS and ATS equipment protect the integrity of our live broadcasting digital transmission services"

Conclusion

At Power Shield, we strive to provide the best solution to companies needing to build in power protection and battery backup for critical equipment. Power Shield recognizes that every solution is particular to the customer and their needs. The customer's environment changes depending on how far from the grid they are, the connected equipment involved, and any electrical anomalies that are occurring. No two sites are exactly the same. Power Shield has experienced engineers and technicians available to work out these power challenges.



PowerShield® PRODUCT RUN CHART

UPS	Case	Style	Bat Cab	Part No.	100	200	300	400	500	600	700	800	900	1000	1100	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	
CompuGuard®	TW	OL	Int	PSCG650	52	21	13	8	6	4																												
Safe Guard	PB	LI	Int	PSG750	52	21	13	8	6	4	3																											
Defender	TW	LI	Int	PSD1200	114	52	31	21	16	13	10	8	7	6	5	4																						
Defender	TW	LI	Int	PSD1600	114	52	31	21	16	13	10	8	7	6	5	4	3	2																				
Commander	TW	LI	Int	PSC1000	114	52	31	21	16	13	10	8	7	6																								
Commander	TW	LI	Int	PSC2000	257	114	72	52	42	31	26	21	18	16	14	13	10	8	7	6																		
Commander	RT	LI	Int	PSCRT1100	107	44	25	15	10	8	6	5	3	2	1																							
Commander	RT	LI	Int	PSCRT2000	255	113	69	49	34	27	22	17	14	12	10	9	7	5	4	3																		
Commander	RT	LI	Ext x 1	PSCRT2000A	936	418	255	179	141	113	99	74	69	58	53	49	39	30	27	24																		
Commander	RT	LI	Int	PSCRT3000	408	176	111	81	57	47	37	29	26	23	20	16	13	10	9	7	6	5	4	3	2													
Commander	RT	LI	Ext x 1	PSCRT3000A	1200	611	408	284	221	176	150	124	111	101	91	81	61	54	47	41	34	29	27	25	23													
Centurion	TW	TOL	Int	PSCE1000	189	94	55	41	29	23	19	16	14	12																								
Centurion	TW	TOL	Ext x 1	PSCE1000A		289	189	138	110	94	75	59	55	50																								
Centurion	TW	TOL	Ext x 2	PSCE1000B				255	189	157	129	114	104	94																								
Centurion	TW	TOL	Ext x 3	PSCE1000C					283	236	189	164	145	126																								
Centurion	TW	TOL	Ext x 4	PSCE1000D						298	262	226	189	169																								
Centurion	TW	TOL	Int	PSCE2000		189	118	94	66	55	48	41	34	29	26	23	19	16	14	12																		
Centurion	TW	TOL	Ext x 1	PSCE2000A				298	244	189	161	138	118	110	102	94	75	59	55	50																		
Centurion	TW	TOL	Ext x 2	PSCE2000B								298	271	244	216	189	161	138	118	110																		
Centurion	TW	TOL	Ext x 3	PSCE2000C											292	271	230	189	167	150																		
Centurion	TW	TOL	Ext x 4	PSCE2000D														279	249	219																		
Centurion	TW	TOL	Int	PSCE3000		189	11	94	66	55	48	41	34	29	26	23	19	16	14	12	10	9	8	7	6													
Centurion	TW	TOL	Ext x 1	PSCE3000A				298	244	189	161	138	118	110	102	94	75	59	55	50	46	41	37	32	29													
Centurion	TW	TOL	Ext x 2	PSCE3000B								298	271	244	216	189	161	138	118	110	102	94	85	75	66													
Centurion	TW	TOL	Ext x 3	PSCE3000C												292	271	230	189	167	150	133	118	112	106	100												
Centurion	TW	TOL	Ext x 4	PSCE3000D														279	249	219	189	171	159	147	134													
Centurion	TW	TOL	Int	PSCE6000					271	222	177	157	136	118	111	104	88	71	59	55	51	46	42	38	34	28	23	19	17	15								
Centurion	TW	TOL	Ext x 1	PSCE6000A													287	255	222	189	170	157	143	129	118	106	94	80	66	58								
Centurion	TW	TOL	Ext x 2	PSCE6000B																				287	271	230	189	167	150	133								
Centurion	TW	TOL	Ext x 3	PSCE6000C																							271	240	210	179								
Centurion	TW	TOL	Ext x 4	PSCE6000D																										293	271							
Centurion	TW	TOL	Int	PSCE10K					271	222	177	157	136	118	111	104	88	71	59	55	51	46	42	38	34	28	23	19	17	15								
Centurion	TW	TOL	Ext x 1	PSCE10KA													287	255	222	189	170	157	143	129	118	106	94	80	66	58	55	51	48	44	41	38	34	
Centurion	TW	TOL	Ext x 2	PSCE10KB																				287	271	230	189	167	150	133	118	112	106	100	94	87	80	
Centurion	TW	TOL	Ext x 3	PSCE10KC																								271	240	210	179	167	154	141	129	118	114	109
Centurion	TW	TOL	Ext x 4	PSCE10KD																																		
Centurion	RT	TOL	Int	PSCERT1000	189	94	55	41	29	23	19	16	14	12																								
Centurion	RT	TOL	Ext x 1	PSCERT1000A		298	189	138	110	94	75	59	55	50																								
Centurion	RT	TOL	Ext x 2	PSCERT1000B				255	189	157	129	114	104	94																								
Centurion	RT	TOL	Int	PSCERT2000		189	118	94	66	55	48	41	34	29	26	23	19	16	14	12																		
Centurion	RT	TOL	Ext x 1	PSCERT2000A				298	244	189	161	138	118	110	102	94	75	59	55	50																		
Centurion	RT	TOL	Ext x 2	PSCERT2000B							287	255	222	189	170	157	129	114	104	94																		

If the loaded is 620VA which falls between the 600VA & 700VA columns in the table, look down the column to the battery run time you desire then choose a UPS to the left. The PowerShield® Defender 1200VA would run on battery between 10 to 13 minutes at 620VA

If the load is 1250VA which falls between the 1200VA & 1400VA columns in the table, look down the column to the battery run time you desire then choose a UPS to the left. The PowerShield® Centurion 2kVA would run on battery between 19 to 23 minutes at 1250VA.

LEGEND	
OL	Offline
LI	Line Interactive
TOL	True Online Double Conversion
TW	Tower
RM	Rackmount
PB	Powerboard Style
RT	Rack/Tower

* Load calculated at 0.7 power factor
* Computations in minutes calculated under optimal conditions. Factors such as temperature and amount of discharges may influence backup times.
* Models ending in "L" are long run models with larger chargers and therefore have no internal batteries