



# OFF-LINE UPS

Great Power Backup solution  
from desktop to datacenter

## WOW UPS

The coolest and cutest UPS with surge protection for PC and home entertainment systems

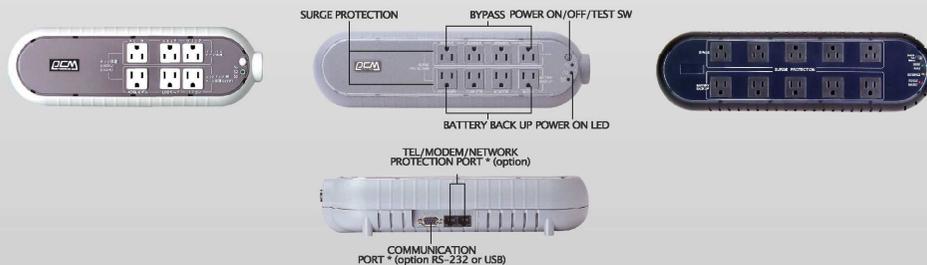
- Fully digitized microprocessor controlled
- Energy saving (UPS sleep mode)
- Smart communication port
- Tel/Modem/Network surge suppression
- 50/60HZ frequency auto sensing
- AC line ok ("Power" LED always on)
- Back up mode ("Power" LED slow flash)
- Replace battery ("Power" LED fast flash)
- Short circuit and overload protection
- Advanced battery management(ABM)
- Automatic diagnostics & battery check
- Bypass output filter for critical load
- User friendly design for hot swapping battery
- Option of communication port of RS-232 or USB port
- EMI/RFI noise filter



### WOW-500/500S/700S

### WOW-850/1000S

### WOW-1200S



## Specification

MODEL	WOW-300/S/U	WOW-380/S/U	WOW-500/S/U	WOW-700/S/U	WOW-850/S/U	WOW-1000/S/U	
OUTPUT	UPS Capacity	300VA	380VA	500VA	700VA	850VA	1000VA
	Total Capacity (surge protection)	1200VA	1200VA	1200VA	1200VA	1200VA	1200VA
	No. of sockets	Style A,C UPS x 3, Bypass x 3, Style E,F,G,I UPS x 2, Bypass x 1 (Please refer to "output receptacle option")			Style A,C UPS x 4, Bypass x 4, Style E,F,G,I UPS x 3, Bypass x 1 (Please refer to "output receptacle option")		
	Voltage (on battery)	Simulated sine wave at 100V / 110V / 115V / 120V / 220V / 230V / 240V +/- 5%					
Frequency (on battery)	50 or 60Hz +/- 0.3Hz						
Transfer Time	2/4 milliseconds, including detection time						
INPUT	Voltage (single phase)	100V +20% / -15% at line input, 110V / 115V +/-20% at line input 120V +/-15% 220V / 230V +/-25% at line input, 240V +15% / -20% at line input					
	Frequency	50 or 60Hz +/- 10% (auto sensing)					
PROTECTION	Input Unit	Circuit breaker or fuse for overload & short circuit protection					
	Overload Protection (WOW-300)	AC Mode:if load exceeds 120% of nominal, Buzzer continue beeping sound. Backup Mode:UPS automatic shutdown. If overload exceeds 110% of nominal at 10 sec, 120% at 3 sec.					
	Overload Protection (WOW-500-1000)	UPS automatic shutdown if overload exceeds 105% of nominal at 20 seconds, 120% at 10 seconds, 130% at 3 seconds.					
	Short Circuit	UPS output cut off immediately					
	Spike Protection	460 Joules, 2ms	600 Joules, 2ms	800 Joules, 2ms			
BATTERY	Type	Sealed, maintenance-free lead acid batteries, with 3-6 years typical lifetime					
	LED Indicator	NO		Battery check			
	Typical Recharge Time (to 90% of full capacity)	6 hours					
	Back-up Time (a PC with 15" monitor)	4 - 6 minutes	6 - 8 minutes		18 - 20 minutes		
(a PC with 15" LCD monitor)	8 - 12 minutes	13 - 15 minutes		38 - 40 minutes			
Protection	Automatic self-test, over discharge protection, short circuit protection by fuse						
PHYSICAL	Net Weight kg (lbs)	1.9 (4.2)	2.58 (5.67)	2.6 (5.7)	3.6 (7.9)	3.7 (8.1)	
	Dimension W x D x H (mm)	100 x 315 x 68 (3.9"x12.4"x2.7")	110 x 330 x 82 (4.33" x 13" x 3.23")		120 x 410 x 85 (4.7" x 16.1" x 3.35")		
INTERFACE	Dry Contact (S series)	Sends battery low & power failure signals, and receives shutdown signal from computer.					
	RS232/USB (S series / U series)	Detect battery low, Schedule UPS on/off, AC input/output power status display.					
ALARM	Battery Back-up	Slow beeping sound every 4 seconds					
	Battery Low	Backup Mode : Rapid beeping sound every second					
	Charge Abnormal	AC Mode : Rapid beeping sound every second					
	Overload	Continue beeping sound					
ENVIRONMENT	Ambient Operation	3,500 meters max. elevation, 0-95% humidity (No-condensing water), 0-40° C					
	Audible Noise	< 40dBA (1 meter from surface)					

### OUTPUT RECEPTACLE OPTION



OFF-LINE UPS-COMPACT



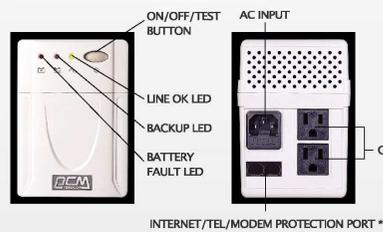
# COMPACT

High performance power protection for workstations, PCs & small electronic equipment

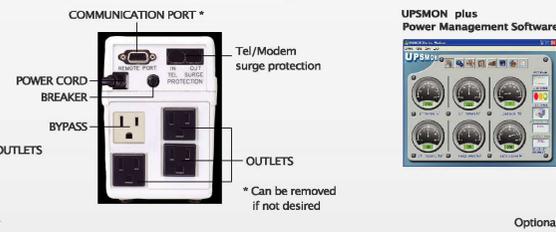
- Fully digitized microprocessor controlled
- Energy saving (UPS sleep mode)
- Smart communication port \*
- Tel/Internet/Network surge protection \*
- 50/60Hz frequency auto sensing
- Cold start (DC power on)
- Line ok (Green LED always on)
- Backup mode (Yellow LED flash)
- Battery check (Red LED)
- Buzzer can be muted by pressing "ON/OFF" button \*
- Short circuit and overload protection
- Single PCB with reliable design
- Advanced battery management (ABM)
- Automatic diagnostics & battery check
- EMI/RFI noise filter
- \* Feature available on S series models

COM-250/350/500/650/850VA  
COM-800/1000/1200VA

COM-250/350/500/650/850VA



COM-800~1200VA S series



### Specification

MODEL	COM-250/S	COM-350/S	COM-500/S	COM-650/S	COM-850/S	COM-800/S	COM-1000/S	COM-1200/S	
INPUT	Capacity	250VA	350VA	500VA	650VA	850VA	1000VA	1200VA	
	Voltage (single phase)	100V +20% / -15% at line input, 115V +/- 20% at line input 220V +/- 25% at line input, 240V +15% / -20% at line input							
	Frequency	50 or 60Hz +/- 10% (auto sensing)							
OUTPUT	Voltage (on battery)	Simulated sine wave at 100V/ 115V / 220V / 240V +/- 5%							
	Frequency (on battery)	50 or 60Hz +/- 0.3Hz							
	Transfer Time	2/4 milliseconds, including detection time							
PROTECTION	Unit Input	Fuse for overload & short circuit protection							
	Overload Protection	UPS automatic shutdown if overload exceeds 105% of nominal at 20 seconds, 120% at 10 seconds, 130% at 3 seconds.							
	Short Circuit	UPS output cut off immediately							
	BATTERY	Type: Sealed, maintenance-free lead acid batteries, with 3-6 years typical lifetime							
PHYSICAL	Typical Recharge Time (to 90% of full capacity)	4 hours			6 hours				
	Back-up Time (a PC with 15" monitor)	8 - 15 minutes	9 - 17 minutes	15 - 25 minutes	19 - 30 minutes	25 - 40 minutes	30 - 40 minutes	35 - 45 minutes	40 - 55 minutes
	Protection	Automatic self-test, Over discharge protection, short circuit protection by fuse							
INTERFACE	Dry contact	Sends battery low & power failure signals, and receives shutdown signal from computer.							
	RS232	Detect battery low, Schedule UPS on/off, AC input/output power status display.							
ALARM	Battery Back-up	Slow beeping sound every 4 seconds (buzzer can be muted by pressing "ON/OFF" button) (available on S series models)							
	Battery Low	Rapid beeping sound every second							
	100% load	Beep 4 Seconds and silence 1 second							
	Overload	Continue beeping sound							
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity (No-condensing water), 0-40°C							
	Audible noise	< 40dBA (1 meter from surface)							

\* Internet and RS232 port is optional for 250/350/500/650/850 model.

OUTPUT RECEPTACLE OPTION



# E-BOOK Series

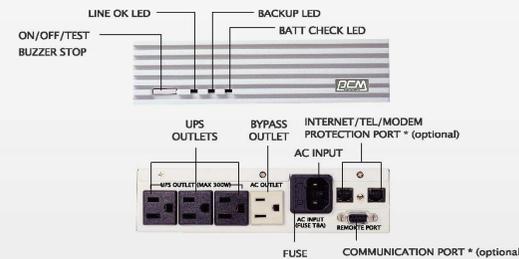
The most compact UPS with surge protection for PC and home entertainment systems

- Elegant outlook and state of the art design that compatible with Personal Computer and home entertainment system (i.e. PS/2).
- Horizontal and vertical positioning capability allows you to place anywhere you like where power source is needed.
- UPS and surge protector for both PC and home entertainment systems.
- Keep your home gaming system running when encountered power failure. Make sure all your data is securely stored.
- Available with Elegant Black and Beige White.

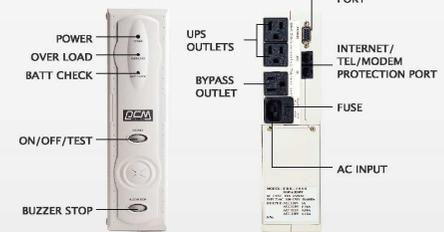


EASY TO REPLACE BATTERY BY END USERS

EBK-350M/S-500M/S



EBK-650S-800S



### Specification

MODEL	EBK-350M	EBK-500M	EBK-350MS	EBK-500MS	EBK-650S	EBK-800S	
OUTPUT	Capacity	350VA	500VA	350VA	500VA	650VA	800VA
	Bypass Capacity (surge protection)	300VA	300VA	300VA	300VA	300VA	300VA
	No. of sockets	Three UPS Sockets and One Bypass Socket				Two UPS Sockets and One Bypass Socket	
	Voltage (on battery)	Simulated sine wave at 100V / 110V / 115V / 220V / 240V +/- 5%					
INPUT	Voltage (single phase)	100V +20% / 15% at line input, 110V / 115V +/- 20% at line input 220V +/- 25% at line input, 240V +15% / -20% at line input					
	Frequency	50 or 60Hz +/- 10% (auto sensing)					
	Transfer Time	2/4 milliseconds, including detection time					
PROTECTION	Unit Input	Fuse for overload & short circuit protection					
	Overload Protection	UPS automatic shutdown if overload exceeds 105% of nominal at 20 seconds, 120% at 10 seconds, 130% at 3 seconds.					
	Short Circuit	UPS output cut off immediately					
	BATTERY	Type: Sealed, maintenance-free lead acid batteries, with 3-6 years typical lifetime					
PHYSICAL	LED Indicators	Battery Check					
	Typical Recharge Time (to 90% of full capacity)	4 hours					
	Back-up Time (a PC with 15" monitor)	11 - 17 minutes	7 - 13 minutes	11 - 17 minutes	15 - 30 minutes	18 - 35 minutes	
INTERFACE	Dry contact	NO	Sends battery low & power failure signals, and receives shutdown signal from computer.				
	RS232	NO	Detect battery low, Schedule UPS on/off, AC input/output power status display.				
ALARM	Battery Back-up	Slow beeping sound every 4 seconds					
	Battery Low	Rapid beeping sound every second					
	105% load	Continue beeping sound every 4 seconds					
	Overload	Continue beeping sound, Overload LED Always On					
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity (No-condensing water), 0-40°C					
	Audible noise	< 40dBA (1 meter from surface)					

OUTPUT RECEPTACLE OPTION



OFF-LINE UPS-iCute Series



# iCute Series

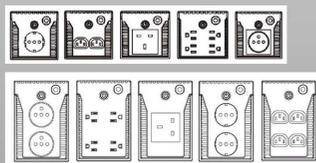
The cutest and smallest ups in the world

- Fully digitized microprocessor controlled
- Energy saving (UPS sleep mode)
- 50/60Hz frequency auto sensing
- Buzzer can be muted by pressing "ON/OFF button"
- Single PCB with reliable design
- AC line ok ("Power" LED always on)
- Cold start (DC power on)
- Back up mode ("Power" LED slow flash)
- Replace battery ("Power" LED fast flash)
- Short circuit and overload protection
- Advanced battery management (ABM)
- Automatic diagnostics & battery check
- Bypass output filter for critical load
- EMI/RFI noise filter

## Specification

MODEL		ICT-385/U/S	ICT-530/U/S	ICT-730/U/S	
OUTPUT	UPS Capacity	385VA	530VA	730VA	
	No. of sockets	Style A,C UPS x 2 (Please refer the "output receptacle option")	Style A,C UPS x 2, Bypass x 2 (Please refer the "output receptacle option")		
	Voltage (on battery)	Simulated sine wave at 100V/115V/220V/240V <+/-5% AVR Controlled by PWM			
	Frequency (on battery)	50 or 60 Hz +/- 0.3 Hz			
INPUT	Transfer Time	< 10 milliseconds, including detection time			
	Voltage (single phase)	100V +/-20%, 110V +/-25% 220V/230V/240V, 170V~280 at line input			
PROTECTION	Frequency	50 or 60 Hz +/- 10% (auto sensing)			
	Unit Input	Circuit breaker for overload & short circuit protection			
	Over load Protection	UPS automatic shutdown if overload exceeds 105% of nominal at 20 seconds, 120% at 10 seconds, 130% at 3 seconds			
	Short Circuit	UPS output cut off immediately			
BATTERY	Spike Protection	460 Joules, 2ms			
	Type	Sealed, maintenance-free lead acid batteries with 3-5 years typical life time			
	Typical Recharge Time (to 90% of full capacity)	6 hours			
	Back-up Time	A PC with 15" monitor 4 - 6 minutes	8 - 10 minutes		
PHYSICAL	A PC with 15" LCD	8 - 12 minutes		15 - 18 minutes	
	Protection	Automatic self - test, Over discharge protection, short circuit protection by fuse			
PHYSICAL	Net Weight kg (lbs)	1.6 (3.52)	2.6 (5.72)	2.6 (5.72)	
	Dimension W x D x H	95 x 95 x 158 mm			
INTERFACE	Dry contact (option)	Sends battery low & power failure signals, and receives shutdown signal from computer			
	USB (option)	Detect battery low, Schedule UPS ON/OFF, AC input / output power status display			
ALARM	Battery Back-up	Slow beeping sound every 4 seconds (Buzzer can be muted by pressing main switch button)			
	Battery Low	Rapid beeping sound every seconds			
	100% load	Continue beeping sound every 4 seconds			
	Overload	Continue beeping sound			
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity (No-condensing water), 0-40 deg C			
	Audible noise	< 40dBA (1 meter form surface)			

UPSMON plus Power Management Software



# TURBO Series

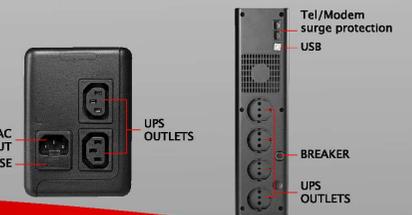
High performance power protection for workstations, PCs & small electronic equipment

- Fully digitized microprocessor controlled
- Energy saving (UPS sleep mode)
- 50/60Hz frequency auto sensing
- Cold start (DC power on)
- Buzzer can be muted by pressing on/off button
- Short circuit and overload protection
- Single PCB with reliable design
- Advanced battery management (ABM)
- Automatic diagnostics & battery check
- EMI/RFI noise filter
- Back up, on-line, battery status, power status display by software\*
- History record of power failure events\*
- Schedule shutdown & reboot\*
- Smart Communication port \*
- \*AP model only

## Specification

MODEL	TUR-500A	TUR-600A	TUR-500AP	TUR-600AP	TUR-800A/AP	TUR-1000A/AP	TUR-1200AP	TUR-1440AP	TUR-1600AP	TUR-1800AP	TUR-2000AP	
OUTPUT	UPS Capacity	500VA	600VA	500VA	600VA	800VA	1000VA	1200VA	1440VA	1600VA	2000VA	
	No. of sockets	Style A UPS x 2, Bypass x 1 (Please refer the "output receptacle option")								Style A UPS x 4, Bypass x 4 (Please refer the "output receptacle option")		
	Voltage (on battery)	only 220-240V		Simulated sine wave at 100V / 220V / 230V / 240V <+/- 5%---AVR Control With PWM								
	Frequency (on battery)	50 or 60Hz +/- 1Hz										
INPUT	Transfer Time	2-4 milliseconds (Typical)										
	Voltage (single phase)	100V / 110V +/-20%, 120V -20%, +15% 220V / 230V / 240V, 166V ~ 280V at line Input										
PROTECTION	Frequency	50 or 60Hz +/- 10% (auto sensing)										
	Unit Input	Fuse or circuit breaker overload & short circuit protection										
	Overload Protection	UPS automatic shutdown if overload exceeds 110% at 10 seconds, 130% at 3 seconds										
	Short Circuit	UPS output cut off immediately										
BATTERY	Spike Protection	460 Joules, (8/20us)										
	Type	Sealed, maintenance-free lead acid batteries										
	Typical Recharge Time (to 90% of full capacity)	6 hours										
	Back-up Time (1 set PC with 17" LCD)	4 - 8 minutes	6 - 10 minutes	4 - 8 minutes	6 - 10 minutes	30 - 34 minutes	32 - 36 minutes	52 - 67 minutes	52 - 67 minutes	62 - 77 minutes	62 - 77 minutes	80 - 90 minutes
PHYSICAL	Protection	Automatic self-test, Over discharge protection, short circuit protection by fuse										
	Net Weight kg (lbs)	2.8 (6.2)	2.9 (6.4)	2.9 (6.4)	3.0 (6.6)	3.7 (8.1)	3.8 (8.4)	5.2 (11.4)	5.3 (11.4)	8.8 (19.3)	8.8 (19.3)	9.2 (20.2)
PHYSICAL	Dimension WxDxH (mm)	90 x 254 x 126 (3.5" x 10" x 5")		97 x 254 x 145 3.8" x 10" x 5.7"			97 x 314 x 146 3.8" x 12.4" x 5.7"		88 x 370 x 340 3.5" x 14.6" x 13.4"			
	INTERFACE (AP MODEL ONLY)	Detect battery low, Schedule UPS ON/OFF, AC input/output power status display										
ALARM	Battery Back-up	Slow beeping sound every 4 seconds (buzzer can be muted by pressing "ON/OFF" button)										
	Battery Low	Rapid beeping sound every second										
	Overload	Continue beeping sound										
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity (No-condensing water), 0-40 °C										
	Audible noise	< 40dBA (1 meter from surface)										

UPSMON plus Power Management Software



### OUTPUT RECEPTACLE OPTION



# LINE INTERACTIVE UPS

Given you the perfect  
interactive experience



## Warrior Series

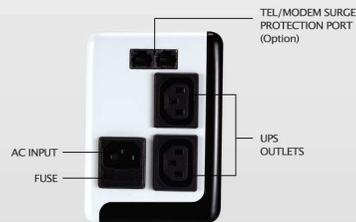
Ultra small UPS for quality protection for computers and servers

- Line interactive design
- Auto Voltage Regulation (AVR)
- Fully digitized microprocessor controlled
- Energy saving function (UPS green mode)
- 50/60Hz frequency auto sensing and selection
- Cold start function (DC power on)
- Lightning and surge protection
- Short circuit and overload protection
- Smart RS-232 or USB communication port \*
- Back up, on-line, battery status, power status display by software \*
- Tel/Modem internet surge suppression (Option)
- Automatically charging when UPS is off \*
- History record of power failure events \*
- Schedule shutdown & reboot \*

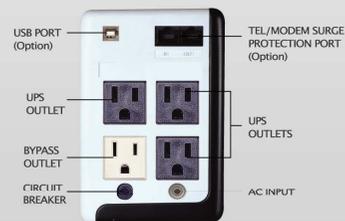
\* AP model only



### WAR-400/500/600VA



### WAR-1000VA



### Specification

MODEL	WAR-400A	WAR-500A	WAR-600A	WAR-1000A	WAR-1000AP
TYPE	LINE INTERACTIVE				
CAPACITY	400VA/200W	500VA/250W	600VA/300W	1000VA/500W	
INPUT	Voltage	110V,115V,120V or 220V,230V,240Vac			110V,115V,120V or 220V,230V,240Vac
		+15% ~ -25%			+25% ~ -25%
OUTPUT	Frequency	50 or 60 Hz +/- 10%			
	Voltage (on battery)	Simulated sine wave at nominal voltage +/- 5%			
PROTECTION AND FILTERING	Frequency (on battery)	50 or 60 Hz +/- 1Hz			
	Voltage Regulation (AVR)	AVR automatically increase output voltage 16% above input voltage if -9% to -25% of nominal.			AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal. automatically decrease output voltage 13% below input voltage if +9% to +25% of nominal
	Transfer Time	4 milliseconds (Typical)			
	Spike Protection	265 Joules 8 / 20µs for 1x0V model, 460 Joules 8 / 20µs for 2x0V model			
BATTERY	Unit Input	Circuit breaker or Fuse for over load & short circuit protection			
	Overload Protection	UPS automatic power off if overload exceeds 105% of nominal at 60 seconds and 130% at 3 seconds			
	Fax / Modem / LAN Protection (Option)	Provides surge suppression for a single line (2 wire) phone circuit (RJ11) & 10BaseT network cable (RJ45)			
	Short Circuit	UPS output cut off immediately or input circuit breaker open protection			
	Type	Sealed, maintenance-free lead acid battery with 3-6 years typical lifetime			
PHYSICAL	Typical Recharge Time	6 hours (to 90% of full capacity)			
	Protection	Auto discharge protection			
	Back-up Time (a PC with 15" LCD monitor)	≈ 8 minutes	≈ 10 minutes	≈ 12 minutes	≈ 25 minutes
ALARM	Net Weight Kg (lbs)	4.25 (9.35)	4.45 (9.79)	4.65 (10.23)	6.55 (14.42)
	Shipping Weight Kg (lbs)	4.75 (10.45)	4.95 (10.89)	5.15 (11.33)	7.05 (15.51)
	Dimension W x D x H mm	92 x 255 x 125 (3.6" x 10.0" x 4.9")			99 x 315 x 145 (3.9" x 12.4" x 5.7")
INTERFACE	Battery Back-up	Slow beeping sound (about 0.47 Hz)			
	Battery Low	Rapid beeping sound (about 1.824 Hz)			
	Overload	Continuously beeping sound			
ENVIRONMENT	RS-232 or USB (AP model only)	Detect and display the battery level, load level, AC input / Output status, and Schedule the UPS on/off			
	Ambient Operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-40 deg C			
	Audible Noise	<40dBA (1 meter from surface)			
Storage Condition	15,000 meter max. elevation				

### OUTPUT RECEPTACLE OPTION



● LINE INTERACTIVE UPS-BLACK KNIGHT BLACK KNIGHT PRO

# BLACK KNIGHT BLACK KNIGHT PRO

Quality Protection for Small Servers,  
and Workstations & PCs



- Line interactive design
- Boost and buck AVR (Auto voltage regulation)
- Fully digitized microprocessor controlled
- Energy saving function (UPS green mode)
- 50/60Hz frequency auto sensing and selection
- Cold start function (DC power on)
- Lightning and surge protection
- Short circuit and overload protection
- Advanced battery management (ABM technology)
- Smart RS-232 communication port \*
- Tel/Modem internet surge suppression \*
- Automatically charging when UPS off \*
- History record of power failure events \*
- Back up, on-line, battery status, power status display by software \*
- Schedule shutdown & reboot \*
- \* Feature on BNT-xxxAP models only



### Specification

MODEL	BNT-400A	BNT-400AP	BNT-500A	BNT-500AP	BNT-600A	BNT-600AP	BNT-800A	BNT-800AP	BNT-1000AN	BNT-1000APN	
CAPACITY	400VA		500VA		600VA		800VA				
INPUT	Voltage 100V,110V,115V,120V,220V,230V,240V +/- 25% at line input Frequency 50 or 60 Hz +/- 10% (auto sensing)										
OUTPUT	Voltage (on battery) Simulated sine wave at 100V,110V,115V,120V,220V,230V,240V +/- 5% Frequency (on battery) 50 or 60 Hz +/- 1Hz Voltage Regulation (AVR) AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal Transfer Time 2/4 milliseconds, including detection time										
PROTECTION and FILTERING	Spike Protection 480 Joules Unit Input Breaker/Fuse or overload & short protection Overload Protection UPS automatic power off if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds 10 Base-T Cable Port OPTIONAL YES OPTIONAL YES OPTIONAL YES OPTIONAL YES OPTIONAL YES Short Circuit UPS output cut off immediately or input Breaker/Fuse protection										
BATTERY	Type Sealed, maintenance-free lead acid Typical Recharge Time 6 hours (to 90% of full capacity) Protection Automatic discharge protection Back-up Time (a PC with 15" monitor) 1/2 15 minutes 1/2 20 minutes 1/2 20 minutes 1/2 22 minutes 1/2 24 minutes 1/2 27 minutes										
PHYSICAL	Net Weight Kg (lbs) 4.2 (9.2) 5.65 (12.43) 5.8 (12.8) 6.44 (14.17) 6.0 (13.2) 6.5 (14.3) 6.45 (14.19) 6.6 (14.52) 6.55 (14.42) 6.7 (14.74)	Shipping Weight Kg (lbs) 4.6 (10.1) 5.95 (13.09) 6.3 (13.9) 6.94 (15.27) 6.5 (14.3) 7.0 (15.4) 6.95 (15.29) 7.1 (15.62) 7.05 (15.51) 7.2 (15.84)	Dimension 97x260x138 (3.8" x 10.2" x 5.4")	97 x 315 x 138 (3.8" x 12.4" x 5.4")							
RECEPTACLES	NEMA 5-15R FOR 1X0V (UPSx2 IN BNT-400A, UPSx3 + BYPASSx1 IN BNT-500A-1000AN & BNT-400AP-1000APN) IEC 320 female appliance coupler FOR 2X0V (UPSx2 IN BNT-400A/AP-800A/AP, UPSx3 + BYPASSx1 IN BNT-1000AN/APN)										
ALARM	Battery Back-up Slow beeping sound (about 0.47 Hz) Battery Low Rapid beeping sound (about 1.824 Hz) Overload Continuously beeping sound										
INTERFACE	RS-232 Interface NO YES NO YES NO YES NO YES NO YES										
ENVIRONMENT	Ambient Operation 3,500 meters max, elevation. 0-95% humidity non-condensing, 0-40 deg C Audible Noise <40dBA (1 meter from surface) Storage Condition 15,000 meter max. elevation										

### OUTPUT RECEPTACLE OPTION



# BLACK KNIGHT PRO

Quality Protection for Small Servers, and Workstations & PCs



- Line interactive design
- Boost and buck AVR (Auto voltage regulation)
- Fully digitized microprocessor controlled
- Energy saving function (UPS green mode)
- 50/60Hz frequency auto sensing and selection
- Smart RS-232 communication port
- Advanced battery management (ABM technology)
- Tel/Modem internet surge suppression
- Automatically charging when UPS off
- History record of power failure events
- Back up, on-line, battery status, power status display by software
- Schedule shutdown & reboot



### Specification

MODEL	BNT-1000AP	BNT-1200AP	BNT-1500AP	BNT-2000AP
CAPACITY	1000VA	1200VA	1500VA	2000VA
INPUT	Voltage 100V,110V,115V,120V,220V,230V,240V +/- 25% at line input Frequency 50 or 60 Hz +/- 10% (auto sensing)			
OUTPUT	Voltage (on battery) Simulated sine wave at 100V,110V,115V,120V,220V,230V,240V +/- 5% Frequency (on battery) 50 or 60 Hz +/- 1Hz Voltage Regulation (AVR) AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal Transfer Time 2/4 milliseconds, including detection time			
PROTECTION and FILTERING	Spike Protection 1065 Joules, 8/20µs for 100V-120V model, 420 Joules, 8/20µs for 220V-240V model Unit Input Fuse or circuit breaker for overload & short circuit protection Overload Protection UPS automatic power off if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds 10 Base-T Cable Port YES Short Circuit UPS output cut off immediately or input fuse protection			
BATTERY	Type Sealed, maintenance-free lead acid batteries with 3-6 years typical lifetime Typical Recharge Time 6 hours (to 90% of full capacity) Protection Auto discharge protection Back-up Time (a PC with 15" monitor) 1/2 40 minutes 1/2 40 minutes 1/2 40 minutes 1/2 45 minutes			
PHYSICAL	Net Weight Kg (lbs) 13.4 (28.6)	13.4 (28.6)	13.6 (30.0)	14.5 (32.0)
Shipping Weight Kg (lbs) 14.8 (32.6)	14.8 (32.6)	15.0 (33.0)	15.9 (35.0)	
Dimension 130 x 382 x 200 (5.1" x 15.0" x 7.9")				
W x D x H mm				
Input Inlet IEC 320 power inlet				
RECEPTACLES	NEMA 5-15R(1X0V) / IEC 320 female appliance coupler (2X0V)			
ALARM	Battery Back-up Slow beeping sound (about 0.47 Hz) Battery Low Rapid beeping sound (about 1.824 Hz) Overload Continuously beeping sound			
INTERFACE	RS-232 Interface YES			
ENVIRONMENT	Ambient Operation 3,500 meters max, elevation. 0-95% humidity non-condensing, 0-40 deg C Audible Noise <40dBA (1 meter from surface) Storage Condition 15,000 meter max. elevation			

### OUTPUT RECEPTACLE OPTION



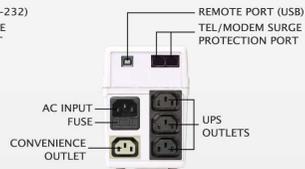
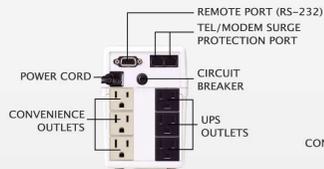
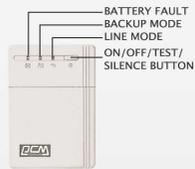
● LINE INTERACTIVE UPS-KING CS Series

# KING CS Series

Complete Protection for Internet Computers and Advanced Servers



- Line interactive design
- Boost and buck AVR
- Back up, on-line, battery status LEDs display
- Fully digitized microprocessor controlled
- Smart RS-232 or USB communication port
- Lightning and surge protection
- Short circuit and overload protection
- 50/60Hz frequency auto sensing
- Tel/modem internet spike protection
- Smart power management with software
- Advanced battery management (ABM)
- Energy saving (UPS sleep mode)
- Cold start (DC power on)



## Specification

MODEL		KIN-425CS	KIN-525CS	KIN-625CS	KIN-825CS
INPUT	Capacity	425VA / 255W	525VA / 315W	625VA / 375W	825VA / 495W
	Voltage	100V,110V,115V,120V,220V,230V,240V +/- 25% at line input			
	Frequency	50 or 60 Hz +/- 10% (auto sensing)			
OUTPUT	Voltage (on battery)	Simulated sine wave at 100V,110V,115V,120V,220V,230V,240V +/- 5%			
	Frequency (on battery)	50 or 60 Hz +/- 1%			
	Voltage Regulation (AVR)	AVR automatically increase output voltage 15% while nominal -9% to -25% utility voltage be connected AVR automatically decrease output voltage 13% while nominal -9% to -25% utility voltage be connected			
	Transfer Time	2 / 4 milliseconds, including detection time			
PROTECTION and FILTERING	Spike Protection	480 Joules, 2ms			
	Unit Input	Circuit breaker for overload & short circuit protection			
	Overload Protection	UPS automatic power off if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds			
	10 Base-T Cable Port	Network (UTP, RJ-45) compatible jacks			
BATTERY	Short Circuit	UPS output cut off immediately or input circuit breaker protection			
	Type	Sealed, maintenance-free lead acid batteries with 3-6 years typical lifetime			
	Typical Recharge Time	6 hours (to 90% of full capacity)			
	Protection	Auto discharge protection			
PHYSICAL	Back-up Time (a PC with 15" monitor)	10 - 20 minutes	20 - 30 minutes	25 - 35 minutes	30 - 40 minutes
	Net Weight Kg (lbs)	5.65 (12.43)	6.44 (14.17)	6.5 (14.3)	6.6 (14.52)
	Shipping Weight Kg (lbs)	5.95 (13.09)	6.94 (15.27)	7.0 (15.4)	7.1 (15.62)
ALARM	Dimension W x D x H mm	97 x 315 x 138 (3.8" x 12.4" x 5.4")			
	Input Inlet	NEMA 5-15P / IEC 320 power inlet			
	Receptacles	NEMA 5-15R (UPS outlets x 3, Convenience outlets x 3) IEC 320 female appliance coupler (UPS outlets x 3, Convenience outlet x 1)			
	Battery Back-up	Slow beeping sound (about 0.47 Hz)			
INTERFACE	Battery Low	Rapid beeping sound (about 1.824 Hz)			
	Overload	Continuously beeping sound			
ENVIRONMENT	RS-232 (serial) / USB	Detect battery low, Schedule UPS on/off, AC input/output power status display.			
ENVIRONMENT	Ambient Operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-40 deg C			
	Audible Noise	<40dBA (1 meter from surface)			
	Storage Condition	15,000 meter max. elevation			

# KING Series

Complete Protection for Internet Computers and Advanced Servers

- Line interactive design
- Fully digitized microprocessor controlled
- Smart RS-232 communication port \*
- Tel/modem internet surge suppression \*
- Auto Voltage regulation (boost and buck AVR)
- Hot swappable battery by users \*\*
- Extended back up time with battery pack \*\*
- Surge protection output for critical load
- Short circuit and overload protection
- Advanced battery management (ABM)
- 50/60Hz frequency auto sensing
- EMI/RFI noise filter
- Cold start (DC power on)
- Energy saving (UPS sleep mode)
- AVR boost & buck LED
- Lightning and surge protection
- Line, inverter, battery status LED
- Site wiring fault I FD display \*\*\*
- Schedule shutdown & reboot \*
- Automatically charging when UPS off \*
- History record of power failure events \*
- Back up, on-line, battery status, power status display by software\*

\* feature available for KIN-xxxAP only

\*\* feature available on 800VA and up models

\*\*\* feature on KIN-800AP and above models(120V models)



KIN-325A-ART/KIN-425/525/625A/AP-ART

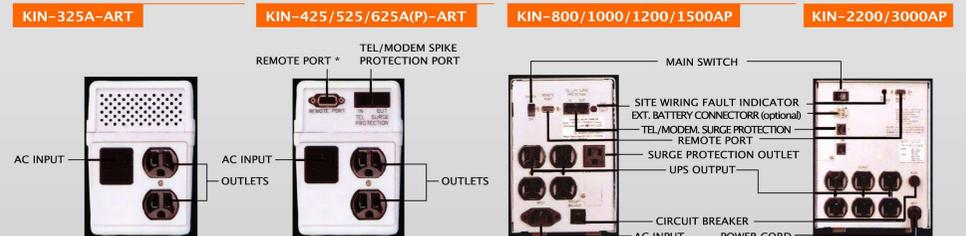


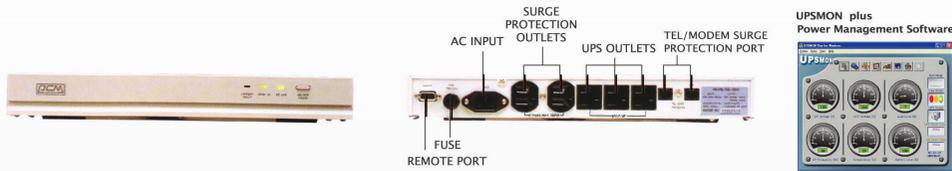
KSL-500AP

KIN-325P  
KIN-425/525/625A/AP

KIN-800/1000/1200/1500AP

KIN-2200/3000AP





Specification

MODEL	KIN-325A-ART	KIN-425AP-ART	KIN-525AP-ART	KIN-625AP-ART	KSL-500AP	KIN-800AP	KIN-1000AP	KIN-1200AP	KIN-1500AP	KIN-2200AP	KIN-3000AP	
INPUT	Capacity	325VA	425VA	525VA	625VA	800VA	1000VA	1200VA	1500VA	2200VA	3000VA	
	Voltage	100V/110V/115V/120V/220V/230V/240V +/- 25% at line input										
	Frequency	50 or 60 Hz +/- 10% (auto sensing)										
OUTPUT	Voltage (on battery)	Simulated sine wave at 100V/110V/115V/120V/220V/230V/240V +/- 5%										
	Frequency (on battery)	50 or 60 Hz +/- 1%										
	Voltage Regulation (AVR)	AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal										
	Transfer Time	2 / 4 milliseconds, including detection time										
PROTECTION and FILTERING	Spike Protection	320 Joules, 2ms										
	EMI/RFI filter	10dB at o. 15MHz, 50dB at 30MHz										
	Overload Protection	UPS automatic shutdown if overload over 110% of nominal at 60 seconds and 130% at 3 seconds										
	10 Base-T Cable Port	Network (UTP, RJ-45) compatible jacks										
	Short Circuit	UPS output cut off immediately or input fuse protection										
BATTERY	Type	Sealed, maintenance-free lead acid with 3-6 years typical lifetime										
	Typical Recharge Time	4 hours (to 90% of full capacity)										
	Protection	Automatic self-test, Discharge protection, Replace battery indicator										
BACK UP TIME	Back-up Time (a PC with 15" monitor)	10 - 20 minutes	15 - 25 minutes	20 - 30 minutes	25 - 35 minutes	20 - 30 minutes	55 - 65 minutes	60 - 70 minutes	65 - 75 minutes	70 - 80 minutes	85 - 95 minutes	95 - 105 minutes
	PHYSICAL	Weight Kg (lbs)	4.7 (10.4lb)	5.8 (12.8lb)	6.2 (13.7lb)	6.5 (14.3lb)	9.0 (19.8lb)	13.3 (29.3lb)	15.0 (33.0lb)	15.5 (34.1lb)	15.8 (34.8lb)	26.2 (57.6lb)
PHYSICAL	Dimension W x D x H mm	97x260x138 (3.8"x10.2"x5.4")	97 x 315 x 138 (3.8" x 12.4" x 5.4")	370x330x52 (14.6"x13.0"x2")	130 x 382 x 200 (5.1" x 15.0" x 7.9")	170 x 440 x 225 (6.7" x 17.3" x 8.9")						
	Input Inlet Receptacles	NEMA 5 15P / IEC 320 power inlet NEMA 5-15R (UPS outlets x 3, Convenience outlets x 3) IEC 320 female appliance coupler (UPS outlets x 3, Convenience outlet x 1)										
	ALARM	Battery Back-up	Slow beeping sound (about 0.47 Hz)									
ALARM	Battery Low	Rapid beeping sound (about 1.824 Hz)										
	Overload	Continuously beeping sound										
	INTERFACE	RS-232 interface	none	Bi-directional communication port								
ENVIRONMENT	Ambient Operation	3,500 meters max, elevation. 0-95% humidity non-condensing, 0-40 deg C										
	Audible Noise	<40dBA (1 meter from surface)										

OUTPUT RECEPTACLE OPTION



# KING RM Series

Complete Protection for Internet Computers and Advanced Servers

- Line interactive design
- Fully digitized microprocessor controlled
- Tel/modem internet surge suppression
- Boost and buck AVR
- EMI/RFI noise filter
- Surge protection output for critical load
- On-line, back up, battery fail status LED
- Lightning and surge protection
- Short circuit and overload protection
- 50/60Hz frequency auto sensing
- Advanced battery management (ABM)
- Energy saving (UPS sleep mode)
- Smart RS-232 communication port
- AVR boost & buck LED \*
- Cold start (DC power on)
- Automatically charging when UPS off
- History record of power failure events
- Schedule shutdown & reboot
- Back up, on-line, battery status, power status display by software
- Hot swappable battery by users \*

\* features available on 1200VA and up models



KIN-600/1000VA (1U)



KIN-1200/1500VA (2U)



KIN-2200VA/3000VA (3U)

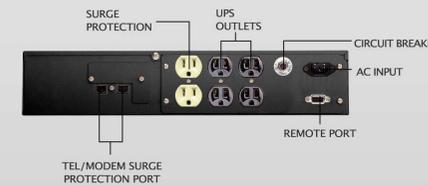
KIN-600/1000(1U)



KIN-2200(3U)



KIN-1200/1500(2U)



KIN-3000(3U)



Specification

MODEL			KIN-600AP RM	KIN-1000AP RM	KIN-1200AP RM	KIN-1500AP RM	KIN-2200AP RM	KIN-3000AP RM
INPUT	Capacity	(On Battery)	600VA	1000VA	1200VA	1500VA	2200VA	3000VA
	Surge Protection outlets		500VA	500VA	500VA	500VA for 220-240V models only	N/A	N/A
OUTPUT	Voltage		+/-25% at line input					
	Frequency		50 or 60 Hz +/-10% (auto sensing)					
	Voltage (on battery)		Simulated sine wave at 100V or 110V/115V/120V or 220V/230V/240V +/-5%					
	Frequency (on battery)		50 or 60 Hz +/-0.5%					
Voltage Regulation (AVR)			AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal					
	Transfer Time		2/4 milliseconds, including detection time					
PROTECTION and FILTERING	Spike Protection		320 Joules					
	EMI/RFI filter		10dB at 0.15MHz, 50dB at 30MHz					
	Overload Protection		UPS automatic shutdown if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds					
	Unit Input		For overload & Short circuit protection					
	10Base - T Cable Port		Network (UTP, RJ-45) compatible jacks					
BATTERY	Short Circuit		UPS output cut off immediately or input circuit breaker protection					
	Type		Sealed, Maintenance-free lead acid					
	Typical Recharge Time		8 hours (to 90% of full capacity)					
	Protection		Automatic self-test & discharge protection, Replace battery indicator					
	Back-up Time (a PC with 15" monitor)		30 - 40 minutes	50 - 60 minutes	60 - 70 minutes	70 - 80 minutes	85 - 95 minutes	95 - 105 minutes
PHYSICAL	Net Weight Kg (lbs)		9.35 (20.5 lb)	11.5 (25.3 lb)	16.3 (35.9 lb)	16.3 (35.9 lb)	28.4 (62.6 lb)	32.7 (71.9 lb)
	Shipping Weight Kg (lbs)		11.0 (24.2 lb)	13.0 (28.6 lb)	19.3 (42.5 lb)	19.3 (42.5 lb)	31.1 (68.5 lb)	36.3 (79.8 lb)
	Dimension (mm) W x D x H		380 x 362 x 44 (15.0" x 14.3" x 1.7")		428 x 357 x 84 (16.9" x 14.1" x 3.3")		428 x 353 x 130 (16.9" x 13.9" x 5.1")	
ALARM	Battery Back-up		Slow beeping sound (about 0.47Hz)					
	Battery Low		Rapid beeping sound (about 1.824Hz)					
	Overload		Continue beeping sound					
INTERFACE	RS-232C port Interface		RS-232C Bi-directional communication port					
ENVIRONMENT	Ambient Operation		3,500 meters max. elevation, 0-95% humidity non-condensing 0 - 40 deg C					
	Audible Noise		< 40dBA (1meter from surface)					
	Storage Condition		15,000 meter max					

OUTPUT RECEPTACLE OPTION



# KING PRO AL/XL Series

UPS with Continuous Rated Capacity for continuous Backup  
Main Unit Excludes Internal Batteries

- Extend backup time by adding ext. battery packs
  - Backup time depends on quantities of connected ext. battery packs
  - Fully digitized microprocessor controlled
  - Smart RS-232 communication port
  - Boost/buck, on-line, battery status LED display
  - Advanced battery management (ABM)
  - Energy saving (UPS sleep mode)
  - Short circuit and overload protection
  - Smart power management with software
  - Lightning and surge protection
  - 50/60Hz frequency auto sensing
  - Cold start (DC power on)
  - Built in fast charger
  - Line interactive design
  - Boost and buck AVR
  - Site wiring fault warning \*
  - Hot swappable battery by users
  - Tel/modem internet spike protection
- \* feature only for 100V/110V/115V models.



Specification

MODEL			KAL-1000AP	KXL-1000AP	KAL-2000AP	KXL-2000AP	KAL-3000AP
INPUT	Capacity		1000VA/600W	1000VA/600W	2000VA/1200W	2000VA/1200W	3000VA/1800W
	Voltage		+/-25% at line input				
OUTPUT	Frequency		50 or 60Hz +/-10% (auto sensing)				
	Voltage (on battery)		Simulated sine wave at +/-5% of nominal				
	Frequency (on battery)		50 or 60Hz +/-0.5%				
	Voltage Regulation(AVR)		AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal				
PROTECTION and FILTERING	Transfer		2/4 milliseconds, including detection time				
	Spike Protection		320 Joules, 2ms				
	EMI/RFI filter		10dB at 0.15MHz, 50 dB at 30MHz				
	Overload Protection		UPS automatic shutdown if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds.				
	Unit input		Circuit breaker for overload & Short circuit protection				
BATTERY	10Base-T Cable Port		Network (UTP, RJ-45) compatible jacks				
	Short Circuit		UPS output cut off immediately or input fuse protection				
	Type		Sealed, Maintenance-free lead acid				
PHYSICAL	Typical Recharge Time		4 hours (to 90% of full capacity)				
	Protection		Automatic self-test & discharge protection, Replace battery indicator				
	Built in fast charger		2.6A	0.6A	1.8A	0.8A	0.8A
	Net Weight Kg (lbs)		15.1 (33.22 lb)	19.8 (43.56 lb)	19.5 (42.9 lb)	28.9 (63.58 lb)	28.9 (63.58 lb)
	Shipping Weight Kg (lbs)		16.3 (38.86 lb)	21.0 (46.20 lb)	22 (48.4 lb)	31.4 (69.08 lb)	31.4 (69.08 lb)
	Dimension (mm) W x D x H		130 x 382 x 200 (5.1" x 15.0" x 7.9")		170 x 440 x 225 (6.7" x 17.3" x 8.9")		
ALARM	Input Inlet		IEC 320 power inlet				
	Receptacles		NEMA 5-15R(115V) / IEC320 female appliance coupler(230V)				
	Battery Back-up		Slow beeping sound (about 0.47Hz)				
INTERFACE	Battery Low		Rapid beeping sound (about 1.824Hz)				
	Overload		Continue beeping sound				
	Dry contact		AC fail, battery low, shutdown signal				
ENVIRONMENT	RS-232 Interface		Bi-directional communication port				
	Ambient operation		3,500 meters max. elevation, 0-95% humidity non-condensing, 0-40 deg C				
	Audible noise		<40dBA (1 meter from surface)				
	Storage condition		15000meters max. elevation				

● LINE INTERACTIVE UPS-IMPERIAL Series

# IMPERIAL Series

Elegant design with quality protection for Small Servers, Workstation or PC's.

- Line interactive design
- Industrial leading VFD panel
- Boost and buck AVR (Auto voltage Regulator)
- Fully digitized microprocessor controlled
- Energy saving (UPS green mode)
- Smart power management with software
- Advanced battery management (ABM technology)
- Cold start function (DC power on)
- Short circuit and overload protection
- Smart RS-232 or USB communication port
- Ethernet network surge suppression port \*\*
- Tel/modem surge suppression port (1 in 2 outs)\*\*
- Coaxial surge suppression port\*\*
- Automatically charging when UPS in off
- Hot swappable battery by users
- EMI/RFI noise filter
- Back up, on-line, battery status LED display
- AVR Boost/Buck LED display \*

\* Feature on 1000VA and up models  
\*\* option



Imperial Digital 425-1000VA IMPERIAL LED 425-1000VA



## Specification

MODEL	IMP-425A/AP	IMP-525A/AP	IMP-625A/AP	IMP-825A/AP	IMP-1000AP	IMP-1200AP	IMP-1500AP	IMP-2000AP	
<b>INPUT</b>	Capacity	425VA	525VA	625VA	825VA	1000VA	1200VA	1500VA	2000VA
	Voltage	100V,110V,115V,120V,220V,230V,240V +/- 25% at line input							
	Frequency	50 or 60 Hz +/- 10% (auto sensing)							
<b>OUTPUT</b>	Voltage (on battery)	Simulated sine wave at 100V,110V,115V,120V,220V,230V,240V +/- 5%							
	Frequency (on battery)	50 or 60 Hz +/- 1Hz							
	Voltage Regulation (AVR)	AVR automatically increase output voltage 15% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal							
	Transfer Time	2 / 4 milliseconds, including detection time							
<b>PROTECTION and FILTERING</b>	Spike Protection	1050 Joules							
	Unit Input	Breaker or fuse for overload & short circuit protection							
	Overload Protection	UPS automatic power off if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds							
	Telephone Protection	RJ-11(1 in 2 out* or 1 in 1 out) compatible jacks for telephone surge protection							
	Internet Protection*	RJ-45 compatible jacks for Ethernet network surge protection							
	Coaxial Protection*	F1 terminal for cable TV/modem surge protection							
	Short Circuit	UPS output cut off immediately or input circuit breaker protection							
<b>BATTERY</b>	Type	Sealed, maintenance-free lead acid							
	Typical Recharge Time	6 hours (to 90% of full capacity)							
	Protection	Auto discharge protection							
	Back-up Time (a PC with 15" monitor)	≈15 MIN	≈20 MIN	≈25 MIN	≈30 MIN	≈50 MIN	≈55 MIN	≈60 MIN	≈65 MIN
<b>PHYSICAL</b>	Net Weight Kg (lbs)	7.4 (16.3)	7.4 (16.3)	7.4 (16.3)	7.4 (16.3)	13.4 (28.6)	13.4 (28.6)	13.6 (30.0)	14.5 (32.0)
	Shipping Weight Kg (lbs)	7.9 (17.4)	7.9 (17.4)	7.9 (17.4)	7.9 (17.4)	14.8 (32.6)	14.8 (32.6)	15.0 (33.0)	15.9 (35.0)
	Dimension	105 x 334 x 168				130 x 382 x 200			
	W x D x H mm	(4.1" x 13.1" x 6.6")				(5.1" x 15.0" x 7.9")			
	Input Inlet	NEMA 5-15P / IEC 320				IEC 320 power inlet			
	Receptacles	NEMA 5-15R (UPS outlets x 3 or x 5*, Convenience outlets x 3 or x 5*) IEC 320 femae appliance coupler (UPS outlets x 3 or x 5*, Convenience outlets x 3 or x 5*)				NEMA 5-15R (UPS outlets x 4, Convenience outlets x 2) IEC 320 femae appliance coupler (UPS outlets x 4, Convenience outlets x 1)			
<b>ALARM</b>	Battery Back-up	Slow beeping sound (about 0.47 Hz)							
	Battery Low	Rapid beeping sound (about 1.824 Hz)							
	Overload	Continuously beeping sound							
<b>INTERFACE</b>	RS-232 (serial) / USB	Detect battery low, Schedule UPS on/off, AC Input/output power status display.							
<b>ENVIRONMENT</b>	Ambient Operation	3,500 meters max. elevation. 0-95% humidity non-condensing, 0-40 deg C							
	Audible Noise	<40dBA (1 meter from surface)							
	Storage Condition	15,000 meter max. elevation							

# PHANTOM Series

Line interactive design

- Line interactive design
- Protection for computers against power failure and surge
- Build in AVR
- User replaceable battery to extend product life
- LED or digital display UPS functions (optional)
- Short Circuit and Overload protection
- System diagnostic and battery check function
- Cold start even when power source is not exist



## Specification

MODEL	PHANTOM LED	PHANTOM DIGITAL	PTM-500A/AP PTD-500A/AP	PTM-600A/AP PTD-600A/AP	PTM-1000A/AP PTD-1000A/AP
<b>INPUT</b>	CAPACITY		500VA	600VA	1000VA
	Voltage	154~276Vac (2x0V) / 77~138Vac (1x0V)			
	Frequency	40Hz ~ 66Hz +/- 5%			
<b>OUTPUT</b>	Voltage (On Battery)	Simulated sine wave 110V / 115V / 120V / 220V / 230V / 240V +/- 5%			
	Frequency (On Battery)	50Hz or 60Hz +/- 1%			
	Voltage Regulation (AVR)	1 STEP BOOST			
	Transfer Time	4 milliseconds (Typical)			
<b>PROTECTION and FILTERING</b>	Spike Protection	265 Joules 8/20us for 1x0V model, 460 Joules 8/20us for 2x0V model			
	Unit Input	Circuit breaker of Fuse for over load & short circuit protection			
	Overload Protection	UPS automatic power off if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds			
	Fax / Modem / LAN Protection (*AP model only)	Provides surge suppression for a single line (2 wire) phone circuit (RJ11) or 10BaseT network cable (RJ45)			
	Short Circuit	UPS output cut off immediately or Input fuse protection			
<b>BATTERY</b>	Type	Sealed, maintenance-free lead acid battery with 3-6 years typical lifetime			
	Typical recharge time	8 hours (To 90% of full capacity)			
	Protection	Auto discharge protection			
	Back-up Time (a PC with 15" monitor)	≈ 20 minutes	≈ 22 minutes	≈ 27 minutes	
<b>PHYSICAL</b>	Net Weight Kg (lbs)	5.3 (11.7)	5.4 (11.9)	6.5 (14.3)	
	Shipping Weight Kg (lbs)	6.0 (13.2)	6.4 (14.1)	7.2 (15.9)	
	Dimension (W x D x H)	102 x 350 x 148 mm			
<b>ALARM</b>	Battery Back-up	Slow beeping sound (about 0.47Hz)			
	Battery Low	Rapid beeping sound (about 1.82Hz)			
	Overload	Continuously beeping sound			
<b>INTERFACE</b>	UPS communication (*AP model only)	Detect and display the battery level, AC Input / Output status, and Schedule the UPS on/off			
<b>ENVIRONMENT</b>	Ambient Operation	3,500 meters max. elevation. 0-95% humidity non-condensing, 0-40°C			
	Audible Noise	< 40dBA (1 meter from surface)			
	Storage Condition	15,000 meter max. elevation			

## OUTPUT RECEPTACLE OPTION



## UPSMON plus Power Management Software



LINE INTERACTIVE UPS-SMART KING

# SMART KING

Pure sine wave output for any critical load

- Line interactive design
- Boost and buck AVR
- Overload, on-line, battery status LED or LCD display
- Hot swappable battery replacement by users
- Fully digitized microprocessor controlled
- Smart RS-232 communication port
- Lightning and surge protection
- Short circuit and overload protection
- 50/60Hz frequency auto sensing
- Tel/modem internet spike protection
- Site wiring fault warning \*
- Smart power management with software
- Load/Battery power meter display
- Advanced battery management (ABM)
- Energy saving (UPS sleep mode)
- Cold start (DC power on)
- SNMP capability (option)
- USB capability (option)
- Extend backup time by adding ext. battery packs \*\*/\*\*\*\*
- Built in fast charger (nominal : 3.5A, 1.5A~8A adjustable) \*\*/\*\*\*\*
- Backup time depends on quantities of connected ext. battery packs \*\*\*

\* feature only for 100V/110V/115V models

\*\* XL models

\*\*\* AL models

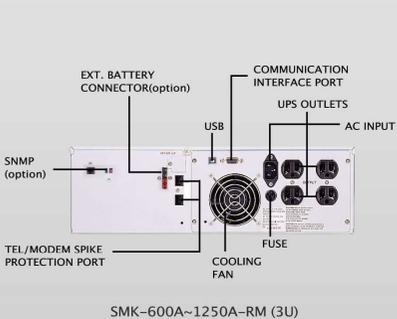
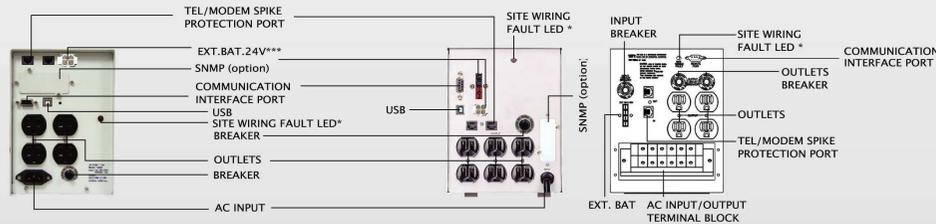
SMK-600/800/1000/1250/1500/2000/2500/3000A



(For SMK-3000A-LED/LCD only)

SMK-600/800/1000/1250A

SMK-1500/2000/2500/3000A



## Specification

Tower Model	SMK-600A	SMK-800A	SMK-1000A	SMK-1250A	SMK-1500A	
19" Rack-mount Model (2U)	SMK-600A-RM(2U)	SMK-800A-RM(2U)	SMK-1000A-RM(2U)	SMK-1250A-RM(2U)	SMK-1500A-RM(2U)	
19" Rack-mount Model (3U)	SMK-600A-RM(3U)	SMK-800A-RM(3U)	SMK-1000A-RM(3U)	SMK-1250A-RM(3U)	SMK-1500A-RM(3U)	
INPUT	Capacity	600VA	800VA	1000VA	1250VA	1500VA
	Voltage	+/-25% at line input, single phase				
	Frequency	50 or 60Hz +/-5Hz (auto sensing)				
OUTPUT	Voltage (on battery)	Pure sine wave at +/-5% of nominal, -10% of nominal after low battery warning				
	Frequency (on battery)	50 or 60Hz +/-0.5%				
	Voltage Regulation(AVR)	AVR automatically increase output voltage 17% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal				
PROTECTION and FILTERING	Spike Protection	320 Joules, 2ms				
	Unit Input	Breaker or fuse				
	EMI/RFI filter	10dB at 0.15MHz, 50 dB at 30MHz				
	Overload Protection	UPS automatic shutdown if overload exceeds 110% of nominal at 20 seconds and 125% at 5 seconds.				
	Transfer Time	6~8 milliseconds (typical), including detection time				
BATTERY	Short Circuit	UPS output cut off immediately or input fuse(or breaker) protection				
	Back up time (one PC and one 15" monitor)	≈ 50 min	≈ 50 min	≈ 50 min	≈ 45 min	≈ 75 min
	Protection	Automatic self-test & discharge protection, Replace battery indicator				
	Type	Hot swappable, sealed, maintenance-free lead acid, with 3-5 years lifetime				
NET WEIGHT kg (lbs)	Typical Recharge Time	4 hours (to 90% of full capacity)				
	Tower	13.8 (30.4 lb)	14.5 (31.9 lb)	15.0 (33.0 lb)	15.8 (34.8 lb)	25.0 (55.0 lb)
	19" Rack-mount Model (2U)	15.7 (34.5 lb)	18.0 (39.6 lb)	20.0 (44.5 lb)	23.5 (51.7 lb)	26.1 (57.4 lb)
DIMENSION W x D x H (mm)	19" Rack-mount Model (3U)	18.0 (39.6 lb)	20.0 (44.5 lb)	23.5 (51.7 lb)	26.1 (57.4 lb)	
	Tower	140 x 436 x 210 (5.5" x 17.2" x 8.3")				170 x 450 x 226 (6.7" x 17.7" x 8.9")
	19" Rack-mount Model (2U)	483 x 430 x 84 (19.0" x 16.9" x 3.3")				483 x 540 x 84 (19.0" x 21.2" x 3.3")
SYSTEM DISPLAY	19" Rack-mount Model (3U)	483 x 381 x 130 (19.0" x 15.0" x 5.1")				483 x 381 x 130 (19.0" x 15.0" x 5.1")
	LED Indicators	Battery capacity, load capacity, overload, back up, replace battery, buck AVR, line normal, boost AVR				
ALARM	LCD Indicators	Indicate line, bypass, inv, backup, fault, bat capacity, load capacity, I/P frequency, O/P voltage, O/P frequency, inside temperature, fault status, load				
	Battery Back-up	Slow beeping sound (about 0.25Hz)				
INTERFACE	Battery Low	Rapid beeping sound (about 1.00Hz)				
	Overload	Continue beeping sound				
	Dry contact	Sends AC fail and battery low signals, and receives shutdown signal from computer.				
ENVIRONMENT	RS232	Detect battery low, Schedule UPS on/off, AC input/output power status display.				
	Option	Novell, SNMP, Windows NT, Windows 95/98/2000/ME/XP/VISTA				
	Ambient operation	3,500 meters max. elevation, 0~95% humidity non-condensing, 0~45 deg C				
Storage condition	Audible noise	<40dBA			<45dBA (1 meter from surface)	
		15,000meters max. elevation				

Specification

Tower Model		SMK-2000A	SMK-2500A	SMK-3000A*
19" Rack-mount Model (2U)		SMK-2000A-RM(2U)	SMK-2500A-RM (2U)	SMK-3000A-RM (2U)
19" Rack-mount Model (3U)		SMK-2000A-RM(3U)	SMK-2500A-RM (3U)	SMK-3000A-RM (3U)
INPUT	Capacity	2000VA	2500VA	3000VA
	Voltage	+/-25% at line input, single phase		
	Frequency	50 or 60Hz +/-5Hz (auto sensing)		
OUTPUT	Voltage (on battery)	Pure sine wave at +/-5% of nominal, -10% of nominal after low battery warning		
	Frequency (on battery)	50 or 60Hz +/-0.5%		
	Voltage Regulation(AVR)	AVR automatically increase output voltage 17% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal		
	Short Circuit	UPS output cut off immediately or input fuse(or breaker) protection		
PROTECTION and FILTERING	Spike Protection	320 Joules, 2ms		
	Unit Input	Breaker or fuse		
	EMI/RFI filter	10dB at 0.15MHz, 50 dB at 30MHz		
	Overload Protection	UPS automatic shutdown if overload exceeds 110% of nominal at 20 seconds and 125% at 5 seconds.		
	Transfer Time	6-8 milliseconds (typical), including detection time		
	Transfer Time	UPS output cut off immediately or input fuse(or breaker) protection		
BATTERY	Back up time (one PC and one 15" monitor)	≈ 120 min	≈ 110 min	≈ 290 min
	Protection	Automatic self-test & discharge protection, Replace battery indicator		
	Type	Hot swappable, sealed, maintenance-free lead acid, with 3-6 years lifetime		
	Typical Recharge Time	4 hours (to 90% of full capacity)		
NET WEIGHT kg (lbs)	Tower	30.0 (66.0 lb)	30.0 (66.0 lb)	19.8 (43.6 lb)
	19" Rack-mount Model (2U)		43.2 (95.0 lb)	
DIMENSION W x D x H (mm)	Tower	170 x 450 x 226 (6.7" x 17.7" x 8.9")	170 x 580 x 226 (6.7" x 22.8" x 8.9")	170 x 450 x 226 (6.7" x 17.7" x 8.9")
	19" Rack-mount Model (2U)	483 x 615 x 84 (19.0" x 24.2" x 3.3")		
	19" Rack-mount Model (3U)	483 x 381 x 130 (19.0" x 15.0" x 5.1")		
	19" Rack-mount Model (3U)	483 x 381 x 130 (19.0" x 15.0" x 5.1")		
SYSTEM DISPLAY	LED Indicators	Battery capacity, load capacity, overload, back up, replace battery, buck AVR, line normal, boost AVR		
	LCD Indicators	Indicate line, bypass, inv, backup, faults, bat capacity, load capacity, I/P frequency, O/P voltage, O/P frequency, inside temperature, fault status, load		
ALARM	Battery Back-up	Slow beeping sound (about 0.25Hz)		
	Battery Low	Rapid beeping sound (about 1.00Hz)		
	Overload	Continue beeping sound		
INTERFACE	Dry contact	Sends AC fail and battery low signals, and receives shutdown signal from computer.		
	RS232	Detect battery low, Schedule UPS on/off, AC input/output power status display.		
	Option	Novell, SNMP, Windows NT, Windows 95/98/2000/ME/XP/VISTA		
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-45 deg C		
	Audible noise	<45dBA (1 meter from surface)		
	Storage condition	15,000meters max. elevation		

OUTPUT RECEPTACLE OPTION



UPSMON plus Power Management Software



SMART KING XL/AL SERIES

Powercom SMART KING UPS provides the most reliable protection for mini-computers, business critical networking file servers, networking switches, hubs and telecommunication equipments from transient surges, voltage fluctuations and power blackout. Rack mount styles are also available for customer's choice for rack optimized servers and other networking applications.



SXL-1000/1500/2000A-RM (3U)



SXL-3000A-RM (4U)



BATTERY PACK (3U) for SXL-1000-3000A-RM

Powercom Smart King UPS comes in LED or LCD front panel for easy status displaying. Smart King AL and XL Series provide continuous rated capacity for continuous backup. The main unit of SMK AL series UPS excludes the internal batteries and is capable of connecting external batteries to support longer backup time while XL series unit includes internal batteries to provide the longer backup time.

With UPSMON software included in the package for servers and workstations, IT administrators can provide safe system shutdown and advanced UPS management (all major operating systems supported). SMK Series also supports SNMP card expansion to provide more powerful web management features on the UPS. Other than that, the Advanced Battery Management (ABM) ensures a highly reliable and available power solution with Powercom Smart King Series.

Powercom Smart king Series is always the best choice for your power solution.



SXL-1000A

SXL-1500A/2000A

SXL-3000A

Ordering Information :

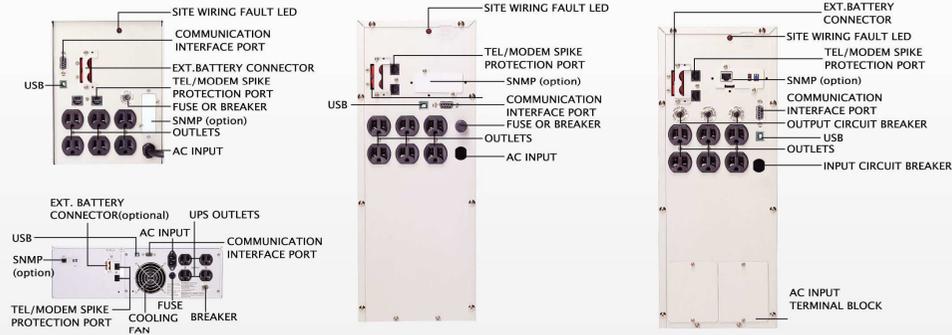
Type	Capacity - (VA)	Package Model	System Display	Input Voltage
SMK	600A - 600VA	Tower Model - (Blank)	LED Indicators - LED	100V,110V,120V,127,
SAL	800A - 800VA	19" rack-mount model 2U - RM (2U)	LCD Indicators - LCD	208V,220V,230V,240V
SXL	1000A - 1000VA	19" rack-mount model 3U - RM (3U)		
	1250A - 1250VA	19" rack-mount model 4U - RM (4U)		
	1500A - 1500VA	19" rack-mount model 5U - RM (5U)		
	2000A - 2000VA			
	2500A - 2500VA			
	3000A - 3000VA			
	5100A - 5100VA			

# XL Series :

SXL-1000A

SXL-1500A/2000A / SXL-3000A (220V)

SXL-3000A (110V)



## Specification

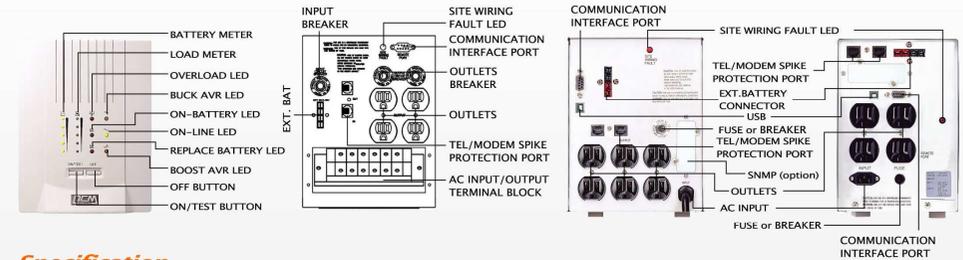
Tower Model		SXL-1000A	SXL-1500A	SXL-2000A	SXL-3000A	SXL-5100A
19" Rack-mount Model		SXL-1000A-RM(3U)	SXL-1500A-RM(3U)	SXL-2000A-RM(3U)	SXL-3000A-RM(4U)	SXL-5100A-RM(5U)
INPUT	Capacity	1000VA	1500VA	2000VA	3000VA	5100VA
	Voltage	+/-25% at line input, single phase				
	Frequency	50 or 60Hz +/-5Hz (auto sensing)				
OUTPUT	Voltage (on battery)	Pure sine wave at +/-5% of nominal, -10% of nominal after low battery warning				
	Frequency (on battery)	50 or 60Hz +/-0.5%				
	Voltage Regulation(AVR)	AVR automatically increase output voltage 17% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal				
PROTECTION and FILTERING	Spike Protection	320 Joules, 2ms				
	Unit Input	Breaker or fuse				
	EMI/RFI filter	10dB at 0.15MHz, 50 dB at 30MHz				
	Overload Protection	UPS automatic shutdown if overload exceeds 110% of nominal at 20 seconds and 125% at 5 seconds.				
	Transfer Time	6~8 milliseconds (typical), including detection time				
BATTERY	Short Circuit	UPS output cut off immediately or input fuse(or breaker) protection				
	Tower	12V / 7.2AH	12V / 17AH	12V / 17AH	12V / 17AH	12V / 17AH
	19" Rack-mount Model	12V / 7.2AH	12V / 34W	12V / 34W	12V / 12AH	12V / 17AH
	Protection	Automatic self-test & discharge protection, Replace battery indicator				
	Back up time	It depends on connecting loads and external battery packs				
NET WEIGHT kg (lbs)	Tower	28 (61.6 lb)	46 (101.2 lb)	50 (110 lb)	57 (125.4 lb)	81.8 (179.9 lb)
	19" Rack-mount Model	31.5 (69.3 lb)	27.6 (60.7 lb)	31.5 (69.3 lb)	51.5 (113.3 lb)	81.8 (179.9 lb)
	DIMENSION W x D x H (mm)	170 x 450 x 215 (6.7" x 17.7" x 8.8")	170 x 480 x 430 (6.7" x 18.9" x 16.9")	170 x 550 x 430 (6.7" x 21.6" x 16.9")	214 x 710 x 500 (8.4" x 27.9" x 19.7")	483 x 560 x 130 (19.0" x 22.0" x 5.1")
SYSTEM DISPLAY	LED Indicators	Battery capacity, load capacity, overload, back up, replace battery, buck AVR, line normal, boost AVR				
	LCD Indicators	Indicate line, bypass, inv, backup, fault, bat capacity, load capacity, I/P frequency, O/P voltage, O/P frequency, inside temperature, fault status, load				
ALARM	Battery Back-up	Slow beeping sound (about 0.25Hz)				
	Battery Low	Rapid beeping sound (about 1.00Hz)				
	Overload	Continue beeping sound				
INTERFACE	Dry contact	Sends AC fail and battery low signals, and receives shutdown signal from computer.				
	RS232	Detect battery low, Schedule UPS on/off, AC input/output power status display.				
	Option	Novell, SNMP, Windows NT, Windows 95/98/2000/ME/XP/VISTA				
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-45 deg C				
	Audible noise	<40dBA	<45dBA (1 meter from surface)			<45dBA (1 meter from surface)
	Storage condition	15,000meters max. elevation				

# AL Series :

SAL-3000A

SAL-2000A

SAL-1000A



## Specification

Extended Run-time Model (Battery Excluded)		SAL-1000A	SAL-2000A	SAL-3000A
INPUT	Capacity	1000VA	2000VA	3000VA
	Voltage	+/-25% at line input, single phase		
	Frequency	50 or 60Hz +/-5Hz (auto sensing)		
OUTPUT	Voltage (on battery)	Pure sine wave at +/-5% of nominal, -10% of nominal after low battery warning		
	Frequency (on battery)	50 or 60Hz +/-0.5%		
	Voltage Regulation(AVR)	AVR automatically increase output voltage 17% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal		
PROTECTION and FILTERING	Spike Protection	320 Joules, 2ms		
	Unit Input	Fuse for 110V models Except 3000A, breaker for 220V models Except 1000A		
	EMI/RFI filter	10dB at 0.15MHz, 50 dB at 30MHz		
	Overload Protection	UPS automatic shutdown if overload exceeds 110% of nominal at 20 seconds and 125% at 5 seconds.		
	Transfer Time	6~8 milliseconds (typical), including detection time		
BATTERY	Short Circuit	UPS output cut off immediately or input fuse(or breaker) protection		
	Operation Voltage	24VDC	48VDC	48VDC
	Protection	Automatic self-test & discharge protection, Replace battery indicator		
	Back up time	It depends on connecting loads and external battery packs		
	Built in fast charger	Nominal : 5.5A, 3.5A-8A adjustable		
NET WEIGHT kg (lbs)	Tower	10 (22 lb)	19.5 (42.9 lb)	26.8 (58.96 lb)
	DIMENSION W x D x H (mm)	140 x 436 x 210 (5.5" x 17.2" x 8.3")	170 x 450 x 226 (6.7" x 17.7" x 8.9")	170 x 580 x 226 (6.7" x 22.8" x 8.9")
SYSTEM DISPLAY	LED Indicators	Battery capacity, load capacity, overload, back up, replace battery, buck AVR, line normal, boost AVR		
	LCD Indicators	Indicate line, bypass, inv, backup, fault, bat capacity, load capacity, I/P frequency, O/P voltage, O/P frequency, inside temperature, fault status, load		
ALARM	Battery Back-up	Slow beeping sound (about 0.25Hz)		
	Battery Low	Rapid beeping sound (about 1.00Hz)		
	Overload	Continue beeping sound		
INTERFACE	Dry contact	Sends AC fail and battery low signals, and receives shutdown signal from computer.		
	RS232	Detect battery low, Schedule UPS on/off, AC input/output power status display.		
	Option	Novell, SNMP, Windows NT, Windows 95/98/2000/ME/XP/VISTA		
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-45 deg C		
	Audible noise	<40dBA (1 meter from surface)	<45dBA (1 meter from surface)	
	Storage condition	15,000meters max. elevation		

# SMART KING PRO

Pure sine wave output for any critical load



- Line interactive design
- Boost and buck AVR
- Overload, AVR, on-line, back up and battery status LEDs display
- Fully digitized microprocessor controlled
- Smart RS-232 or USB communication port (500VA~700VA models)
- Smart RS-232 and USB communication port (1000VA~3000VA models)
- Lightning and surge protection
- Short circuit and overload protection
- 50/60Hz frequency auto sensing
- Tel/modem internet spike protection
- Advanced battery management (ABM)
- Cold start (DC power on)
- Hot swappable battery replacement by users
- SNMP capability (option)

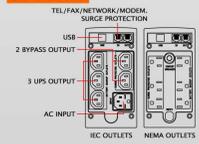
## Specification

Tower Model	SKP-500A	SKP-700A	SKP-1000A	SKP-1250A	SKP-1500A	SKP-2000A	SKP-3000A	
INPUT	Capacity	500VA	700VA	1000VA	1250VA	1500VA	2000VA	3000VA
	Voltage	+/-25% at line input, single phase						
	Frequency	50 or 60Hz +/-10% (auto sensing)						
OUTPUT	Voltage (on battery)	Pure sine wave at +/- 5% of nominal, -10% of nominal after low battery warning						
	Frequency (on battery)	50 or 60Hz +/-0.5%						
	Voltage Regulation(AVR)	AVR automatically increase output voltage 17% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal						
PROTECTION and FILTERING	Spike Protection	320 Joules, 2ms						
	Unit Input	Fuse or breaker						
	EMI/RFI filter	10dB at 0.15MHz, 50 dB at 30MHz						
	Overload Protection	UPS automatic shutdown if overload exceeds 110% of nominal at 20 seconds and 125% at 5 seconds.						
	Transfer Time	6-8 milliseconds (typical), including detection time						
BATTERY	Type	Hot swappable, sealed, maintenance-free lead acid battery						
	Typical Recharge Time	4 hours (to 90% of full capacity)						
	Protection	Automatic self-test & discharge protection, Replace battery indicator						
NET WEIGHT kg (lbs)	Back-up Time(one PC with a 15" LCD monitor)	≈ 20 min	≈ 30 min	≈ 50 min	≈ 55 min	≈ 60 min	≈ 70 min	≈ 135 min
	NET WEIGHT	6.6	6.7	13.9	13.9	15.0	15.8	19.5
	kg (lbs)	(14.5 lb)	(14.7 lb)	(30.6 lb)	(30.6 lb)	(33.0 lb)	(34.8 lb)	(43.0 lb)
	DIMENSION W x D x H (mm)	102 x 326 x 165 (4.0" x 12.8" x 6.5")		140 x 380 x 210 (5.5" x 15.0" x 8.3")				
ALARM	Battery Back-up	Slow beeping sound (about 0.25Hz)						
	Battery Low	Rapid beeping sound (about 1.00Hz)						
	Overload	Continue beeping sound						
INTERFACE	Dry contact	Sends AC fail and battery low signals, and receives shutdown signal from computer.						
	RS232	Detect battery low, Schedule UPS on/off, AC input/output power status display.						
	Option	Novell, SNMP, Windows NT, Windows 95/98/2000/ME/XP/VISTA						
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-48°C					0-45°C	
	Audible noise	<45 dBA (1 meter from surface)						
	Storage condition	15,000meters max. elevation						

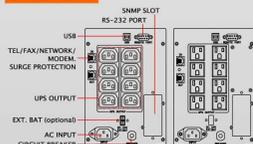
## UPSMON plus Power Management Software



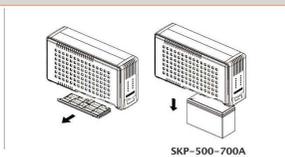
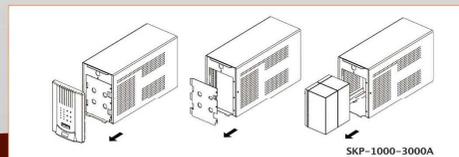
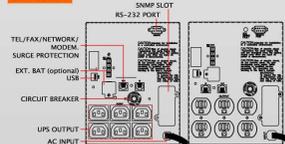
SKP-500-700A



SKP-1000-2000A



SKP-3000A



# SMART RACK & TOWER

Pure sine wave output for any critical load

- Line interactive design
- Boost and buck AVR
- Overload, on-line, battery status LED display
- Hot swappable battery replacement by users
- Fully digitized microprocessor controlled
- Smart RS-232 communication port
- Lightning and surge protection
- Short circuit and overload protection
- 50/60Hz frequency auto sensing
- Tel/modem internet spike protection
- Smart power management with software
- Load/Battery power meter display
- Advanced battery management (ABM)
- Energy saving (UPS sleep mode)
- Cold start (DC power on)
- SNMP capability (option)



## Specification

MODEL	SRT-1000A	SRT-1500A	SRT-2000A	SRT-3000A		
Input	Capacity (VA)	1000VA	1440VA	2000VA	3000VA	
	Capacity (W)	700W	1008W	1400W	2100W	
	Voltage	+/-25% at line input, Single phase				
	Frequency	50 or 60Hz +/-5Hz (auto sensing)				
Output	Voltage (on battery)	Pure sine wave +/-5% of nominal, -10% of nominal after low battery warning				
	Frequency (on battery)	50 or 60Hz +/-0.5%				
	Voltage Regulation (AVR)	AVR automatically increase output voltage 17% above input voltage if -9% to -25% of nominal. AVR decrease output voltage 13% below input voltage if +9% to +25% of nominal.				
Protection and Filtering	Spike Protection	300 Joules (2ms)				
	Unit Input	Circuit breaker protection				
	EMI/RFI filter	10dB at 0.15MHz, 50dB at 30MHz				
	Overload Protection	UPS automatic shutdown if overload exceeds 110% of nominal at 20 second and 125% at 5 seconds.				
	Transfer Time	6 - 8 milliseconds (typical), including detection time				
Battery	Type	Hot swappable, Sealed, Maintenance-free lead acid, with 3-5 years lifetime				
	Rating	12V / 7AH	12V / 9AH	12V / 7AH	12V / 9AH	
	Quantity	2	2	4	4	
Physical	System DC voltage	24V		48V		
	Typical Recharge Time	4 hours (to 90% of full capacity)				
	Protection	Automatic self-test & discharge protection, Replace battery indicator				
	Backup Time	Half Load	≈ 6 min	≈ 5 min	≈ 6 min	≈ 5 min
		Full Load	≈ 2 min	≈ 2 min	≈ 2 min	≈ 2 min
	External Battery Connector	Option				
Net Weight Kg (lbs)	18 kg (40 lbs)		25 kg (55 lbs)			
	Dimension (mm) WxDxH		428 x 453 x 84		428 x 563 x 84	
Alarm	Battery Back-Up	Slow beeping sound (about 0.25Hz)				
	Battery Low	Rapid beeping sound (about 1.00Hz)				
	Overload	Continue beeping sound				
Interface	RS-232	Detect battery low, Schedule UPS on/off, AC input/output power status display				
	USB	Detect battery low, Schedule UPS on/off, AC input/output power status display				
	Dry Contact	Sends AC fail and battery low signals, and receives shutdown signal from computer.				
	Option	Novell, SNMP, Windows NT, Windows 95/98/2000/ME/XP/VISTA				
Environment	Ambient Operation	3,500 meters max. elevation, 0-95% humidity non-condensing, Temperature : 0-40°C			0-40°C	
	Audible noise	< 45dBA (1 meter from surface)				
	Storage condition	15,000 meters max. elevation				

Note : Characteristics are subject to change without prior notice.

ON LINE UPS-Vanguard UPS

# ON LINE UPS

Perfect solution for Industrial users.



## Vanguard UPS

Multi Functional double conversion LCD On-Line UPS

- True on-line technology provides all power protection
  - Pure sine-wave output with less than 3% THD
  - Fully digitized microprocessor controlled
  - Cold start function (DC power on)
  - Lightning and surge protection
  - Short Circuit and overload protection
  - Advanced battery management (ABM)
  - Automatic battery charge in UPS off mode
  - Battery replacement warning
  - Automatic diagnostics & battery check
  - RS-232 communication port with monitoring software
  - Load segmentation receptacles controllable \*
  - Fan speed auto control when loads varies
  - Extended back up time with battery pack
  - Network/fax/modem surge protection
- UPSMON plus software monitoring
  - Hot swappable battery by user \*
  - Emergency Power Off function
  - Support USB communication
  - High efficiency mode selectable
  - Battery remain time display
  - Multiple language LCD display
  - On line output voltage selected
  - LCD display front panel
  - Power factor correction
- \* means function available only for model VGD-700~3000



VGD-700-1500VA VGD-2K-3K VA VGD-4K-5KVA VGD-6KVA VGD-8K-10KVA VGD-12K-20KVA

### PRODUCT INTRODUCTION :

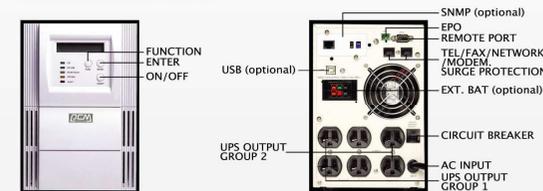
As business becomes increasingly dependent on technology for their fundamental operation, the need for system availability is of paramount importance. The Powercom Vanguard series UPS is designed for those applications that need maximum protection in the 700VA - 20KVA range. With its high-frequency, double-conversion online topology, providing nonstop clean sine wave power, advanced communications and space-saving tower design, the Powercom Vanguard series is the ideal power solution for networks, web servers, telecommunications applications and other critical electronic equipment.

In addition to its proven design, the Powercom Vanguard series offer Advanced Battery Management (ABM) and sophisticated communications to provide maximum system availability. ABM uses a three-stage charging technique that not only doubles service life of battery but optimizes charging time.

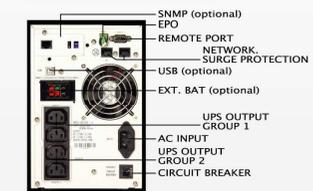
The Powercom Vanguard series's communications are flexible, allowing for local, network or remote monitoring and management. The Powercom Vanguard includes the latest version of Powercom's UPSMON Software Suite, which provides power monitoring and shutdown software.

With the Powercom Vanguard, Powercom delivers a best-in-class power solution for maximum system availability, and peace of mind.

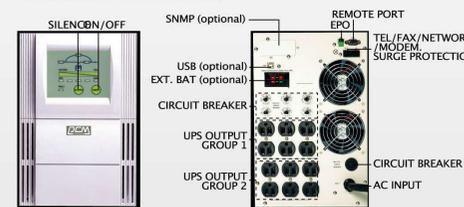
#### VGD-700~1500 (120V)



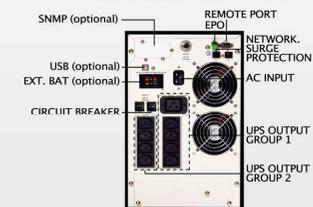
#### VGD-700~1500 (230V)



#### VGD-2000~3000 (120V)



#### VGD-2000~3000 (230V)



### FUNCTION :

**Application:** Workgroup Server, Departmental Server, Enterprise Server, WEB server, Workstation.

**Problems:** Power Failures, Power sags, Power Surges, Under-voltage Electrical Line Noise, Over-Voltage, Frequency Variation, Switching Transient, Harmonic Distortion. Even when presented with the most severe of these power problems, the Powercom Vanguard series output remains within a remarkable +/-2% of nominal voltage. It means that your critical system always receives steady and clean power. In addition, the Powercom Vanguard series transfer to backup mode with no break in power, making it the perfect UPS for equipment in environment plagued by poor power.

### SPECIAL FEATURES :

**1. 15 LCD Display:** Easy viewing of UPS status from LCD panel including:

O/P Voltage	O/P Load (%)	Battery Charge (%)
O/P Frequency	O/P Watt (W)	Temperature (°C)
I/P Voltage	O/P VA	Battery Pack Number
I/P Frequency	O/P Current (A)	Rating (VA)
Battery Voltage	Back Up Time (Min.)	CPU Version

**2. 14 UPS parameter settings:**

O/P Voltage Set	Manual Bypass	Site Failure Set
I/P Frequency Set	Outlet Segment Set	Language Selection
I/P Bypass Set	Battery Test	Generator Option Set
Free Run Set	Silence Mode Set	RS232 Control
High Efficiency Mode	Battery Cabinet Set	

The load group status can be viewed from the LCD display and can be changed if necessary. These load segments are usually handled with the UPS management software. Refer to chapter 5.2 regarding the two load segments that come with each model.

### Unique Design

- Vanguard rack mount models come in different heights such as 1U, 2U, or 3U to meet different space demands.
- Vanguard rack mount now is available from 700VA up to 10 KVA.
- Vanguard 3U rack mount model is designed to be flexible and able to fit in different spaces.
- The control panel can be adjust 90 around to accommodate the UPS installation direction (vertically or horizontally).
- Remote control panel feature is designed for easy control of the UPS which is placed in the unreachable area.



### VGD-1K.2K.3K RM2U real panel



#### 1) Remote control panel feature:

The display panel can be remove from the front panel and attached to the back panel with a cable in order to provide the wired-remote feature.

#### 2) Display panel is designed to be easy removable.

3) 2 different direction of insertion slots are designed to attached with display panel providing 2 different angles to suit in different space demands.

4) The Vanguard 3U rack mount can also be tower model after switching the display panel by turning the front panel and put up the unit to vertical position.

### VGD-4K.5K.6K.8K.10K RM panel



### Software and Communications Options

- \* USB port (optional) allows UPS to communicate with Windows 98/ME, and XP computers
- \* RS232 Port (standard) for interface with power management software
- \* SNMP/Web card (optional) adds direct control and monitoring capabilities in SNMP-based networks. Ability to monitor UPS status and meters through web browser interface.
- \* Relay card (optional) adds integration to industrial environment and building management systems, shutdown for IBM AS/400.

# VANGUARD TOWER

## Specification

Tower model (with LCD display)	VGD-700	VGD-1000	VGD-1500	VGD-2000	VGD-3000	VGD-4000	VGD-5000		
CAPACITY	Capacity (VA)	700VA	1000VA	1500VA	2000VA	3000VA	5000VA		
	Capacity (W)	490W	700W	1050W	1400W	2100W	3500W		
INPUT	Voltage / Load	100V, 110V, 115V, 120V, 127V				208V, 220V, 230V, 240V			
	Voltage / Range	60 ~ 69V		70 ~ 79V		80 ~ 144V			
	Load Capacity	0 ~ 40%		0 ~ 70%		0 ~ 100%			
	Voltage / Range	120 ~ 139V		140 ~ 159V		160 ~ 276V			
Frequency	50 / 60 Hz Auto Sensing								
OUTPUT	Voltage (on battery)	100V, 110V, 115V, 120V, 127V / 208V, 220V, 230V, 240V +/-2% (Selectable Output Voltage)							
	Frequency (on battery)	50 / 60 Hz +/-0.5%							
	Transfer Time	0 ms							
	Overload Recovery	Auto transfer to UPS							
	High Efficiency mode (AC to AC)	> 95 %							
	UPS Design Technology	On-Line / Fully digitized microprocessor controlled							
	Output Wave Form	Sinewave							
	Harmonic distortion	< 3% of T.H.D. at linear load							
	Crest Factor	3 : 1							
	PROTECTION AND FILTERING	Surge Protection	120V (IEEE C62.41) / 230V (IEEC61000-4-5 level 3)						
Overload Protection		125% for 1 minutes and 150% for 10 seconds							
Short Circuit Protection		UPS output cut off immediately or input fuse / circuit breaker protection							
SYSTEM DISPLAY / WARNING	Visual Display (LED model)	UPS on(green), line-mode(green), battery mode(yellow), bypass(yellow), fault(red)							
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, battery capacity, load level							
	Audible Alarm (Battery back-up)	Beep every 5 sec							
	UPS Fault	Continuous beeping sound and LCD display							
Communication	RS-232 Serial Port and USB								
BATTERY	Type	Sealed, maintenance-free lead acid batteries							
	DC Voltage (V) Battery (Tower)	24V / 12V7.2AH x 2	36V / 12V7.2AH x 3	36V / 12V9AH x 3	72V / 12V7.2AH x 6	72V / 12V9AH x 6	120V / 12V7AH x 10	120V / 12V9AH x 10	
	Typical Recharge Time to 90% Full	3 hours							
	Management	Self-test, adjustable battery transfer points and alarm settings							
	Battery Protection	Cut off without draining any current when battery is low							
	Cold Start (DC start)	YES							
	Back Up Time (Tower model)	6 min	6 min	4 min	6 min	4 min	5 min	4 min	
	Back Up Time (Half Load)	15 min	15 min	10 min	15 min	10 min	12 min	10 min	
	PHYSICAL	Input Inlet	NEMA 5-15 (120V) / IEC 320 (230V)					Hardwire	
		Receptacles	NEMA 5-15 (120V) / IEC 320 (230V)					IEC 320	
Total Receptacles (UPS+Surge / Surge Only)		6 (120V) / 4 (230V)		12 (120V) / 8 (230V)		IEC 320 C13*8 / IEC 320 C19*2			
Tower Dimensions Inches mm (inch) W x D x H		15.2 x 4.20 x 23.7 (6.0" x 16.5" x 9.3")		22.5 x 4.20 x 36.0 (8.9" x 16.5" x 14.2")		25.7 x 5.40 x 44.0 (10.1" x 21.3" x 17.3")			
Net Weight kg (lb) Tower model		13.9 (30.6)	17.1 (37.6)	17.7 (38.9)	33.8 (74.4)	35.6 (78.3)	50.0 (110.1)		
Shipping Weight kg (lb) Tower model		15.6 (34.3)	18.9 (41.6)	19.5 (42.9)	36.0 (79.2)	38.0 (83.6)	53.0 (116.7)		
ENVIRONMENT	Operating Temperature	0 ~ 40°C / 32 ~ 104°F							
	Storage Temperature	-20 ~ 50°C / -4 ~ 122°F							
	Altitude	3,500 meters max							
	Audible Noise (1 meter from surface)	< 40 dBA							
Relative Humidity	0 ~ 95% humidity, non-condensing								
CONFORMANCE	Safety	UL 1778, CE							
	EMC (EMS / EMI)	IEC 61000-4, FCC Part 15, CISPR 22							
	Equipment Protection Policy	Warranty policy may vary depends on region							

Specification

Tower model (with LCD display)		VGD-6000	VGD-8000	VGD-10000	VGD-12000	VGD-15000	VGD-20000	
CAPACITY	Capacity (VA)	6000VA	8000VA	10000VA	12000VA	15000VA	20000VA	
	Capacity (W)	4200W	5600W	7000W	8400W	10500W	14000W	
INPUT	Voltage / Load	208V, 220V, 230V, 240V						
		Voltage / Range	Load Capacity	Voltage / Range		Load Capacity		
		120 ~ 139V	0 ~ 25%	180 ~ 276V		0 ~ 100%		
		140 ~ 159V	0 ~ 50%					
	160 ~ 179V	0 ~ 75%						
Frequency	50 / 60 Hz Auto Sensing							
OUTPUT	Voltage (on battery)	100V, 110V, 115V, 120V / 208V, 220V, 230V, 240V +/-2% (Selectable Output Voltage)						
	Frequency (on battery)	50 / 60 Hz +/-0.5%						
	Transfer Time	0 ms						
	Overload Recovery	Auto transfer to UPS						
	High Efficiency mode (AC to AC)	> 97 %						
	UPS Design Technology	On-Line / Fully digitized microprocessor controlled						
	Output Wave Form	Sinewave						
	Harmonic distortion	< 3% of T.H.D. at linear load						
	Crest Factor	3 : 1						
	PROTECTION AND FILTERING	Surge Protection	IEC61000-4-5 level 3					
Overload Protection		125% for 1 minutes and 150% for 10 seconds (On-line) 130% for 10 seconds and 150% for 1.5 seconds (On-battery)						
Short Circuit Protection		UPS output cut off immediately or input fuse / circuit breaker protection						
SYSTEM DISPLAY / WARNING	Visual Display (LED model)	UPS on(green), line-mode(green), battery mode(yellow), bypass(yellow), fault(red)						
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, battery capacity, load level						
	Audible Alarm (Battery back-up)	Beep every 5 sec						
	UPS Fault	Continuous beeping sound and LCD display						
	Communication	RS-232 Serial Port and USB						
BATTERY	Type	Sealed, maintenance-free lead acid batteries						
	DC Voltage (V) Battery (Tower)	240V / 12V7.2AH x 20	240V / 12V7.2AH x 20	240V / 12V9AH x 20	240V / 12V7.2AH x 20 x 2SET	240V / 12V7.2AH x 20 x 2SET	240V / 12V9AH x 20 x 2SET	
	Typical Recharge Time to 90% Full	3 hours						
	Management	Self-test, adjustable battery transfer points and alarm settings						
	Battery Protection	Cut off without draining any current when battery is low						
	Cold Start (DC start)	YES						
	Back Up Time (Tower model)	About 6 min Full load / 15min Half load						
	PHYSICAL	Input Inlet	Hardwire					
		Receptacles	Hardwire					
		Tower Dimensions Inches mm (inch) W x D x H W/O ISOTR	257 x 590 x 570 (10.1"x23.2"x22.4")	257 x 690 x 715 (10.1" x 27.2" x 28.1")	342 x 690 x 878 (13.5"x27.2"x34.6")	342 x 863 x 905 (13.5" x 34.0" x 35.6")		
Net Weight kg (lb) W/O ISOTR		86.0 (189.2)	112.0 (246.7)	130.0 (286.0)	175.0 (385.0)			
Shipping Weight kg (lb) W/O ISOTR		106.0 (233.2)	139.0 (306.2)	151.5 (333.3)	196.0 (432.3)			
Tower Dimensions Inches mm (inch) W x D x H W/ ISOTR		257 x 590 x 700 (10.1"x23.2"x27.6")	342 x 690 x 715 (13.4" x 27.2" x 28.1")	342 x 690 x 878 (13.5"x27.2"x34.6")	342 x 863 x 905 (13.5" x 34.0" x 35.6")			
Net Weight kg (lb) W/ ISOTR		123.0 (270.6)	178.0 (392.1)	180.0 (396.0)	225.0 (495.0)			
Shipping Weight kg (lb) W/ ISOTR		145.0 (319.0)	210.0 (462.6)	201.5 (443.3)	246.5 (542.3)			
ENVIRONMENT	Operating Temperature	0 ~ 40° C / 32 ~ 104° F						
	Storage Temperature	-20 ~ 50° C / -4 ~ 122° F						
	Altitude	3,500 meters max						
	Audible Noise (1 meter from surface)	< 55 dBA						
	Relative Humidity	0 ~ 95% humidity, non-condensing						
CONFORMANCE	Safety	UL 1778, CE						
	EMC (EMS / EMI)	IEC 61000-4, FCC Part 15, CISPR 22						
	Equipment Protection Policy	Warranty policy may vary depends on region						

VANGUARD RACK MOUNT

Specification

19" rack-mount model		VGD-700-RM	VGD-1000-RM	VGD-1500-RM	VGD-2000-RM	VGD-3000-RM	VGD-5000-RM	VGD-6000-RM	
CAPACITY	Capacity (VA)	700VA	1000VA	1500VA	2000VA	3000VA	5000VA	6000VA	
	Capacity (W)	490W	700W	1050W	1400W	2100W	3500W	4200W	
INPUT	Voltage / Load	100V, 110V, 115V, 120V, 127V				208V, 220V, 230V, 240V			
		Voltage / Range	Load Capacity	Voltage / Range	Load Capacity	Voltage / Range	Load Capacity	Voltage / Range	Load Capacity
		60 ~ 69V	0 ~ 40%	120 ~ 139V	0 ~ 40%	140 ~ 159V	0 ~ 70%	160 ~ 179V	0 ~ 70%
		70 ~ 79V	0 ~ 70%	140 ~ 159V	0 ~ 70%	160 ~ 179V	0 ~ 100%	180 ~ 199V	0 ~ 100%
	80 ~ 144V	0 ~ 100%	160 ~ 179V	0 ~ 100%	180 ~ 199V	0 ~ 100%	200 ~ 219V	0 ~ 100%	
Frequency	50 / 60 Hz Auto Sensing								
OUTPUT	Voltage (on battery)	100V, 110V, 115V, 120V, 127V / 208V, 220V, 230V, 240V +/-2% (Selectable Output Voltage)							
	Frequency (on battery)	50 / 60 Hz +/-0.5%							
	Transfer Time	0 ms							
	Overload Recovery	Auto transfer to UPS							
	High Efficiency mode (AC to AC)	> 95 %							
	UPS Design Technology	On-Line / Fully digitized microprocessor controlled							
	Output Wave Form	Sinewave							
	Harmonic distortion	< 3% of T.H.D. at linear load							
Crest Factor	3 : 1								
PROTECTION AND FILTERING	Surge Protection	120V (IEEE C62.41) / 230V (IEEC61000-4-5 level 3)							
	Overload Protection	125% for 1 minutes and 150% for 10 seconds							
SYSTEM DISPLAY / WARNING	Short Circuit Protection	UPS output cut off immediately or input fuse / circuit breaker protection							
	Visual Display (LED model)	UPS on(green), line-mode(green), battery mode(yellow), bypass(yellow), fault(red)							
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, battery capacity, load level							
	Audible Alarm (Battery back-up)	Beep every 5 sec							
	UPS Fault	Continuous beeping sound and LCD display							
BATTERY	Type	Sealed, maintenance-free lead acid batteries							
	DC Voltage (V) Battery (1U)	24V / 6V7.2AH x 4	None			None			None
	DC Voltage (V) Battery (2U)	24V / 12V7.2AH x 2	36V / 12V7.2AH x 3	36V / 12V9AH x 3	72V / 12V7.2AH x 6	72V / 12V9AH x 6	None		
	DC Voltage (V) Battery (6U)	None							240V / 12V7.2AH x 20
	Typical Recharge Time to 90% Full	3 hours							
	Management	Self-test, adjustable battery transfer points and alarm settings							
	Battery Protection	Cut off without draining any current when battery is low							
	Cold Start (DC start)	YES							
	Back Up Time (Full Load)	2U=6min,1U=4min	2U=6min,1U=3min	4 min	6 min	4 min	9 min	7 min	7 min
	Back Up Time (Half Load)	2U=15min,1U=10min	2U=15min,1U=8min	10 min	15 min	10 min	27 min	20 min	20 min
PHYSICAL	Input Inlet	NEMA 5-15 (120V) / IEC 320 (230V)							
	Receptacles	NEMA 5-15 (120V) / IEC 320 (230V)							
	Total Receptacles (UPS+Surge / Surge Only)	6 (120V) / 4 (230V)		4 (120V) / 4 (230V)		Hardwire			
	19" rack-mount Dimensions Inches mm (inch) W x D x H	428 x 525 x 44 (16.9" x 20.7" x 1.7") 1U		None		428 x 597 x 130 (Power Module) (16.9" x 23.5" x 5.1") 3U			
	Net Weight kg (lb)	1U=15.0(33.0), 2U=18.7(41.4)		19.1 (42.0)		33.6 (73.9), 34.3 (75.5)		66.0 (145.2) (Battery Module)	
	Shipping weight kg (lb)	1U=17.7(38.9), 2U=21.6(47.5)		21.7 (47.7)		36.7 (80.7), 38.3 (84.3)		75.5 (166.1) (Battery Module)	
	Operating Temperature	0 ~ 40° C / 32 ~ 104° F							
	Storage Temperature	-20 ~ 50° C / -4 ~ 122° F							
ENVIRONMENT	Altitude	3,500 meters max							
	Audible Noise (1 meter from surface)	< 40 dBA							
	Relative Humidity	0 ~ 95% humidity, non-condensing							
	Safety	UL 1778, CE							
	EMC (EMS / EMI)	IEC 61000-4, FCC Part 15, CISPR 22							
CONFORMANCE									
	Equipment Protection Policy	Warranty policy may vary depends on region							

# VANGUARD RACK MOUNT

## Specification

19" rack-mount model	VGD-8K-RM	VGD-10K-RM	VGD-2000-RM	VGD-4000-RM	VGD-5000-RM	VGD-2K-RM2U+2U	VGD-3K-RM2U+2U		
CAPACITY	Capacity (VA)	8000VA	10000VA	2000VA	4000VA	5000VA	2000VA	3000VA	
	Capacity (W)	5600W	7000W	1400W	2800W	3500W	1400W	2100W	
INPUT	Voltage / Load	208V, 220V, 230V, 240V							
		Voltage / Range	Load Capacity	Voltage / Range	Load Capacity	Voltage / Range	Load Capacity		
		60 ~ 69V	0 ~ 40%	120 ~ 139V	0 ~ 40%	120 ~ 139V	0 ~ 25%		
		70 ~ 79V	0 ~ 70%	140 ~ 159V	0 ~ 70%	140 ~ 159V	0 ~ 40%		
	80 ~ 144V	0 ~ 100%	160 ~ 276V	0 ~ 100%	160 ~ 179V	0 ~ 75%			
Frequency	50 / 60 Hz Auto Sensing								
OUTPUT	Voltage (on battery)	100V, 110V, 115V, 120V, 127V / 208V, 220V, 230V, 240V +/−2% (Selectable Output Voltage)							
	Frequency (on battery)	50 / 60 Hz +/−0.5%							
	Transfer Time	0 ms							
	Overload Recovery	Auto transfer to UPS							
	High Efficiency mode (AC to AC)	> 95 %							
	UPS Design Technology	On-Line / Fully digitized microprocessor controlled							
	Output Wave Form	Sinewave							
	Harmonic distortion	< 3% of T.H.D. at linear load							
Crest Factor	3 : 1								
PROTECTION AND FILTERING	Surge Protection	120V (IECC CG2.41) / 230V (IECECG1000-4-5 level 3)							
	Overload Protection	125% for 1 minutes and 150% for 10 seconds							
	Short Circuit Protection	UPS output cut off immediately or input fuse / circuit breaker protection							
SYSTEM DISPLAY / WARNING	Visual Display (LED model)	UPS on(green), line-mode(green), battery mode(yellow), bypass(yellow), fault(red)							
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, battery capacity, load level							
	Audible Alarm (Battery back-up)	Beep every 5 sec							
	UPS Fault	Continuous beeping sound and LCD display							
	Communication	RS-232 Serial Port and USB							
BATTERY	Type	Sealed, maintenance-free lead acid batteries							
	DC Voltage (V) Battery	240V / 12V7.2AH x 20	240V / 12V9AH x 20	48V / 12V9AH x 4	120V / 12V5AH x 10	120V / 12V5AH x 10	72V / 12V7AH x 6	72V / 12V9AH x 6	
	Typical Recharge Time to 90% Full	3 hours							
	Management	Self-test, adjustable battery transfer points and alarm settings							
	Battery Protection	Cut off without draining any current when battery is low							
	Cold Start (DC start)	YES							
	Back Up Time (Full Load)	4 min	4 min	4 min	4 min	3 min	6 min	4 min	
	Back Up Time (Half Load)	10 min	10 min	10 min	10 min	8 min	15 min	10 min	
PHYSICAL	Input Inlet	NEMA 5-15 (120V) / IEC 320 (230V) / Hardware							
	Receptacles	NEMA 5-15 (120V) / IEC 320 (230V)							
	Total Receptacles (UPS+Surge / Surge Only)	IEC 320 C13*4	4 (120V)	IEC 320 C13*8	4 (120V)	IEC 320 C19*2	4 (230V)		
	19" rack-mount Dimensions (mm (inch) W x D x H)	428x657x130(3U)(Power Module)	428x500x84 (16.9"x19.7"x33.0")	428x657x130 (16.9"x25.9"x5.1")	3U	428x425x84(2U)(Battery Module)			
	Net Weight kg (lb)	24.3 (53.5) (Power Module)	27.0 (59.4)	51.0 (112.2)		9.5 (20.9) (Power Module)			
	19" rack-mount	67.5 (148.7) (Battery Module)		22.0 (48.4) (Battery Module)		11.5 (25.3) (Power Module)		24.0 (52.8) (Battery Module)	
	Shipping Weight kg (lb)	28.5 (62.8) (Power Module)	29.5 (64.9)	66.0 (145.2)					
	19" rack-mount	82.8 (182.4) (Battery Module)							
	ENVIRONMENT	Operating Temperature	0 ~ 40°C / 32 ~ 104°F						
		Storage Temperature	-20 ~ 50°C / -4 ~ 122°F						
Altitude		3,500 meters max							
Audible Noise (1 meter from surface)		< 40 dBA							
Relative Humidity		0 ~ 95% humidity, non-condensing							
CONFORMANCE	Safety	UL 1778, CE							
	EMC (EMS / EMI)	IEC 61000-4, FCC Part 15, CISPR 22							
	Equipment Protection Policy	Warranty policy may vary depends on region							

# VANGUARD3 PHASE IN 1PHASE OUT

## Specification

Tower model (with LCD display)	VGD-8K31	VGD-10K31	VGD-12K31	VGD-15K31	VGD-20K31	
CAPACITY	Capacity (VA)	8000VA	10000VA	12000VA	15000VA	20000VA
	Capacity (W)	5600W	7000W	8400W	10500W	14000W
INPUT	Voltage / Load	208/360V, 220/380V, 230/400V, 240/415V (3Ø5W)				
		Load Capacity		Voltage / Range		Load Capacity
		208 ~ 241V	0 ~ 25%	312 ~ 478V		0 ~ 100%
		242 ~ 276V	0 ~ 40%			
	277 ~ 311V	0 ~ 75%				
Frequency	50 / 60 Hz Auto Sensing					
OUTPUT	Voltage (on battery)	100V, 110V, 115V, 120V / 208V, 220V, 230V, 240V +/−2% (Selectable Output Voltage)				
	Frequency (on battery)	50 / 60 Hz +/−0.5%				
	Transfer Time	0 ms				
	Overload Recovery	Auto transfer to UPS				
	High Efficiency mode (AC to AC)	> 97 %				
	UPS Design Technology	On-Line / Fully digitized microprocessor controlled				
	Output Wave Form	Sinewave				
	Harmonic distortion	< 3% of T.H.D. at linear load				
Crest Factor	3 : 1					
PROTECTION AND FILTERING	Surge Protection	IEC61000-4-5 Level 3				
	Overload Protection	125% for 1 minutes and 150% for 10 seconds 130% for 10 seconds and 150% for 1.5 seconds (On-battery)				
	Short Circuit Protection	UPS output cut off immediately or input fuse / circuit breaker protection				
SYSTEM DISPLAY / WARNING	Visual Display (LED model)	UPS on(green), line-mode(green), battery mode(yellow), bypass(yellow), fault(red)				
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, battery capacity, load level				
	Audible Alarm (Battery back-up)	Beep every 5 sec				
	UPS Fault	Continuous beeping sound and LCD display				
	Communication	RS-232 Serial Port and USB				
BATTERY	Type	Sealed, maintenance-free lead acid batteries				
	DC Voltage (V) Battery (Tower)	240V / 12V7.2AH x 20	240V / 12V9AH x 20	240V / 12V7.2AH x 20 x 2SET	240V / 12V7.2AH x 20 x 2SET	240V / 12V9AH x 20 x 2SET
	Typical Recharge Time to 90% Full	3 hours				
	Management	Self-test, adjustable battery transfer points and alarm settings				
	Battery Protection	Cut off without draining any current when battery is low				
	Cold Start (DC start)	YES				
	Back Up Time (Tower model)	About 6 min Full load / 15min Half load				
	PHYSICAL	Input Inlet	Hardware			
Receptacles		Hardware				
Tower Dimensions Inches mm (inch) W x D x H W/O ISOTR		257 x 690 x 715 (10.1" x 27.2" x 28.1")		342 x 690 x 878 (13.5"x27.2"x34.6")		342 x 863 x 905 (13.5" x 34.0" x 35.6")
Net Weight kg (lb) W/O ISOTR		80.0 (176.0)		176.5 (388.3)		175.0 (385.0)
Shipping Weight kg (lb) W/O ISOTR		101.5 (223.3)		206.5 (454.3)		196.0 (432.3)
Tower Dimensions Inches mm (inch) W x D x H W/ ISOTR		342 x 690 x 715 (13.4" x 27.2" x 28.1")		342 x 690 x 878 (13.5"x27.2"x34.6")		342 x 863 x 905 (13.5" x 34.0" x 35.6")
Net Weight kg (lb) W/ ISOTR		130.0 (286.0)		176.5 (388.3)		225.0 (495.0)
Shipping Weight kg (lb) W/ ISOTR	151.5 (333.3)		206.5 (454.3)		246.5 (542.3)	
ENVIRONMENT	Operating Temperature	0 ~ 40°C / 32 ~ 104°F				
	Storage Temperature	-20 ~ 50°C / -4 ~ 122°F				
	Altitude	3,500 meters max				
	Audible Noise (1 meter from surface)	< 55 dBA				
Relative Humidity	0 ~ 95% humidity, non-condensing					
CONFORMANCE	Safety	UL 1778, CE				
	EMC (EMS / EMI)	IEC 61000-4, FCC Part 15, CISPR 22				
	Equipment Protection Policy	Warranty policy may vary depends on region				

### OUTPUT RECEPTACLE OPTION



ON LINE UPS-Vanguard UPS

# Vanguard Chain

- DPS controller provides highest performance
- True on-line and double conversion topology
- Pure sine-wave output with less than 3% THD
- Redundancy UPS system(Capable parallel function)
- Automatic battery remain time learning for un-standard and standard battery back
- Capable hardwired for Emergency Switching Power off function
- UPS Emergency Remote Power Off function
- Automatic battery diagnostics and battery check
- Detail UPS information LCD display
- Smart Battery Charging for battery pack
- Extended back up time with battery pack
- Back-feed protection
- Electronic bypass function
- UPSMON plus software monitoring
- Lighting and surge protection
- Short Circuit and overload protection
- RS-232 communication port with monitor software
- Fan lock detection
- Multiple language LCD display ( English / Europe )
- On line output voltage selected
- LCD display front panel
- Power factor correction
- Support various interface cards



6K-10KVA (3U+3U)

## General Items

### Air inlets and outlets

The air inlet is at the front side of the UPS and the air outlet at the rear side

### Acoustic noise

The environment rack-mount UPS used for, generally does have high acoustic noise. So the UPS itself can have higher acoustic noise, than UPS used for desktop applications. This allow to use strong fans for forced cooling of the UPS.

### Detection of disconnected batteries

As the UPS does not have integrated batteries, the UPS must be able to detect disconnected batteries.

### Additional EMC requirements

The UPS has to meet EMI according to EN62040-2, Class A by using any external battery, which is not build in a metal cubical. For this requirement, it is necessary to add a filter board to the battery connection circuit.

### Product safety

The product will carry the TUV-GS mark and CB certificates / reports will be issued.

### Test reports

Additional to the manufacturer type test reports following report is required : Technical data sheets from manufacturer declared specification according to EN 62040-3. The table must give information about the reference documents (e.g. parts of type test report) which includes the data/measurements of the data sheet and its consistency.

### Hardwired In-/Outlets

To connect the cables to in- and outlet, it is necessary to have strain (pull) reliefs for in- and outlet cables.

### Temperature sensor at CNTL

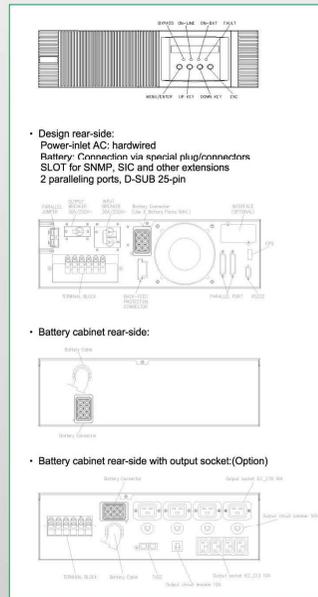
Position of NTC have to be close to the air inlet, so that information about the air inlet temperature is given Temp sensor at CNTL only for protocol.

### Fan lock detection

A fan lock detection is not implemented. UPS is protected by a thermal switch.

### Earth ground connection

An additional possibility for earth ground connection at the cabinet (UPS and battery extensions, rear side) must be available. The solution could be an insert nut with screw and contact washer.



## OUTPUT RECEPTACLE OPTION



# Vanguard Chain

## Specification

Vanguard Chain Rack mount model		VCR-6KVA	VCR-10KVA
Capacity	Capacity (VA)	6000VA	10000VA
	Capacity (W)	4200W	7000W
Input	Nominal input voltage (V)	230V	230V
	Input phases	Single phase	Single phase
	Input voltage range (V)	176 - 276 V	176 - 276 V
	Nominal frequency (Hz)	50 / 60 Auto selection	50 / 60 Auto selection
	Frequency tolerance (%)	+/- 5%	+/- 5%
	Power factor (at nominal V)	> 0.97	> 0.97
	Input Current distortion THDI (%)	≤ 10%	≤ 10%
	Output	Voltage (no battery)	208V, 220V, 230V, 240V +/-2% (Selectable Output Voltage)
Frequency (no battery)		50 / 60 Hz +/-0.5%	
Transfer Time		0 ms	
Overload Recovery		Auto transfer to UPS	
UPS Design Technology		On-Line / Fully digitized microprocessor controlled	
Output Wave Form		Sine wave	
Harmonic distortion		< 3% of T.H.D. at linear full load < 8% of T.H.D. at Non-linear full load	
Crest Factor		3 : 1	
Parallel function (Total Parallel Number)		Parallel up to 3 units (Total 4 units)	
Battery		Type	Sealed, maintenance-free lead acid batteries
	DC Voltage (V)	240V	
	End of discharge volt (V)	200	
	Management	Self-test, adjustable battery transfer points and alarm settings	
	Battery Protection	Cut off without draining any current when battery is low	
	Cold Start (DC start)	YES	
Battery cabinet	Optimum battery temperature (°C)	15 - 25	15 - 25
	Battery type / standard	7.2AH / 12V or equivalent	9AH / 12V or equivalent
	Number of batteries (pcs)	20	20
	Discharging (minutes)	7 mins	4 mins
	Typical Recharge Time to 90% Full	4 hours	5 hours
	Dimensions W x D x H (mm)	428 x 657 x 130	428 x 657 x 130
	Weight (including batteries)(kg)	66	68
	Shipping Weight (kg)	75.5	83
Battery charger	Battery nominal voltage (Vdc)	240V	
	Input voltage range (Vdc)	176 - 276 V	176 - 276 V
	Charger output current	1.2 (typical)	1.2 (typical)
Protection and Filtering	Surge Protection	TBD	
	Overload Protection	105 - 125% for 1 minute 126 - 150% for 10 seconds > 150 for < 2 seconds	105 - 125% for 1 minute 126 - 150% for 10 seconds > 150 for < 2 seconds
System / Display / Warning	Short Circuit Protection	UPS output cut off immediately or input fuse / circuit breaker protection	
	Visual Display (LED model)	UPS line-mode(green), battery mode(yellow), bypass(yellow), fault(red)	
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, bypass mode, battery capacity, load level	
	Andible Alarm (Battery back-up)	Beep every 5 sec	
	UPS Fault	Continuous beeping sound and LCD display	
	Communication	RS-232 Serial Port	
Physical	Input Inlet	Hardwire	
	Receptacles	Hardwire	Hardwire
	Dimensions W x D x H (mm)	428 x 671 x 130	428 x 671 x 130
	Net Weight (kg)	23	TBD
	Shipping Weight (kg)	27	TBD
Environment	Operating Temperature	0-40°C / 32-104°F	
	Storage Temperature	-20-30°C / -4-122°F	
	Altitude	3,500 meters max	
	Audible Noise (1 meter from surface)	< 55 dBA	< 55 dBA
	Relative Humidity	0 - 95% humidity, non-condensing	
Conformance	Safety	TBD	
	EMC (EMS / EMI)	TBD	
	Equipment Protection Policy	Warranty policy may vary depends on region	

ON LINE UPS-ONL series

# ONL series

Advanced Power Protection for Enterprise Network

- Sinewave Pulse Width Modulation (SPWM)
- IGBT inverter design
- Double conversion on-line system
- Multi-microprocessor control
- Smart RS-232 communication port
- SNMP management capability
- Wide Input Voltage Windows (+/-25%)
- Pure sinewave output less than 3% THD
- Versatile, modular design
- Expandable battery run time
- Generator compatible
- Cold start (DC power on)
- Load/Battery power meter display
- Overload, on-line, battery status LED/LCD
- Advanced Battery Management (ABM)
- Automatically charging in UPS off mode
- 20kHz SPWM high frequency inverter



ONL-2000VA-20KVA(LED)

ONL-3.75K/6.25K-LCD

ONL-7.5K/ 20K-LCD

## Specification

Tower Model (LED display)	ONL-2000S	ONL-3750S	ONL-6250S	ONL-7500S	ONL-10KS	ONL-15KS	ONL-10KS31	ONL-15KS31	ONL-20KS31	ONL-20KS31	
Tower Model (LCD display)	None	ONL-3750-LCD	ONL-6250-LCD	ONL-7500-LCD	ONL-10K-LCD	ONL-15K-LCD	ONL-10K31-LCD	ONL-15K31-LCD	ONL-20K31-LCD	ONL-20K31-LCD	
Power Rating	P.F.=0.8 2KVA/1.6KW	3.75KVA/3KW	6.25KVA/5KW	7.5KVA/6KW	10KVA/8KW	15KVA/12KW	10KVA/8KW	15KVA/12KW	20KVA/16KW	20KVA/16KW	
AC Input	Voltage 110V SYSTEM: 82.5~137.5V 220V SYSTEM: 165~275V										
	Frequency 50 Hz or 60 Hz +/- 5 Hz										
	Phase Single phase										
Battery	DC Voltage	120 V	192 V	192 V	192 V	192 V	192 V	192 V	192 V	360 V	360 V
	Back-Up Time	Full Load 12 min	12 min	5 min	15 min	10 min	10 min	10 min	10 min	10 min	10 min
		Half Load 30 min	29 min	15 min	35 min	25 min	28 min	25 min	28 min	24 min	24 min
	Type	Sealed lead acid battery, maintenance free									
	Protection Battery low cut-off without draining any current										
	Recharge Time About 8 hours to 90% after fully discharged										
AC output	Frequency 50 Hz / 60 Hz										
	Voltage 110 / 115 / 120 / 220 / 230 / 240 V Single phase										
	Voltage regulation +/- 1 %										
	Frequency stability +/- 0.5 %										
	Power factor 0.8~1.0 (lagging)										
	Harmonic distortion < 3 % of T.H.D. at linear load										
	Overload detection 125 % to 150 % for 20 seconds, 150 % for 10 cycle										
Efficiency	Whole	> 80 %	> 84 %	> 85 %	> 85 %	> 85 %	> 85 %	> 85 %	> 85 %	> 85 %	
		> 86 %	> 88 %	> 90 %	> 90 %	> 90 %	> 90 %	> 90 %	> 90 %	> 90 %	
Transfer	Power failure or Recovery	0 ms									
	Overload disappear	Auto transfer to UPS									
	UPS to Bypass or vice versa	0 ms									
Noise level	1m. distance	< 55 dBA									
LED Indicators	Status	line input (green), inverter output(green), bypass(yellow), fault(red)									
LCD Indicators	Status	Indicate line, bypass, inverter, backup, fault, bat capacity, load capacity, I/P voltage, I/P frequency, O/P voltage, O/P frequency, internal temperature, fault status									
Alarm	Battery discharge	The first warning will beep every 4 seconds to indicate battery in use. The second warning will beep every 1 second to signal battery low.									
	UPS fault	Continuous beeping sound									
Environment	Temperature	0° C ~ 40° C									
	Humidity	0 % ~ 95 % (Non condensing)									
Interface	Dry contact	Sends AC failure and battery low signals, and receives shutdown signal from computer.									
	RS232	Detect power failure, Battery low, Schedule UPS on/off, AC power status display									
	OPTION	Novell, SNMP, Windows NT									
Physical size	W x D x H mm (inch)	265 x 532 x 584 10.4" x 20.9" x 22.9"	265 x 641 x 750 10.4" x 25.2" x 30.4"			350 x 641 x 1010 13.8" x 25.2" x 38.2"			600 x 857 x 1010 23.6" x 34.4" x 38.2"		
weight	Net weight(kgs)	76 (167.2 lb)	111.4 (245.1lb)	83.8 (184.4lb)	120.4 (264.9lb)	156.2 (343.6lb)	175 (385 lb)	200 (440lb)	175 (385 lb)	214 (470.8lb)	431 (948.2 lb)

### OUTPUT RECEPTACLE OPTION



● ON LINE UPS-ONL-33 series

# ONL-33 series

The best 3 phase double conversion UPS

- DSP Technology
- \* Factor CPU control & mass data processing ability.
- \* Fewer Hardware design to enhance system reliability & UPS life.
- \* Superior SPWM processing ability to drive INV circuit directly.



Best Power Protection  
Your Power Solution

- UPS controlled by Digital Signal Processor (DSP)
- Sine wave Pulse Width Modulation (SPWM)
- High Resolution 320 x 240 dots graphs LCD Display
- Automatic Battery Management and charging system
- Wide input Voltage range 176V~264V
- Pure sine wave output less than 3% THD
- UPS status display on LED flowchart
- Smart RS-232 or RS-485 communication port
- Accept two AC source input (option)
- SNMP management capability (option)
- 20KHz high frequency inverter
- Versatile modular design
- Expandable battery run time
- Generator compatible
- IGBT inverter design
- Multi-function LCD display
- Cold start function (DC power on)
- Battery test on AC mode
- Accepted 100% Unbalanced load
- Remote control panel (option)
- IBM AS-400 Interface communication port (option)
- Intranet/Internet management function capability (option)

## Specification

Model Name	ONL-10K33	ONL-15K33	ONL-22.5K33	ONL-30K33	ONL-45K33	ONL-60K33		
Capacity	10KVA	15KVA	22.5KVA	30KVA	45KVA	60KVA		
Power	8KW	12KW	18KW	24KW	36KW	48KW		
P.F.	0.8							
Input	Phase	3 Phase 3 wire / 3 Phase 4 wire and ground						
	Voltage range	208V / 120V or 380V / 220V +/- 20%						
	Frequency range	Auto-sensing, 50Hz / 60Hz +/- 5Hz						
	Way of rectifier	3 phase 6 pulses or 12 pulses (option)						
	Efficiency of rectifier	> 97%						
Efficiency of Inverter	> 89%	> 91%	> 91%	> 92%	> 92%	> 92%		
Total Efficiency	> 88%	> 90%	> 90%	> 91%	> 91%	> 91%		
Output	Phase	3 phase 4 wire and ground						
	Voltage range	208V / 120V or 380V / 220V						
	Voltage regulation	+/- 1%						
	Transient state	Return to 90% with 4 cycles						
	Overload capacity	Bypass after 30min while overload >100% <125%						
		Bypass after 30sec while overload =125% <150%						
		Bypass after 30 cycles while overload exceed ≥150%						
	Way of inverter	Sine wave modulated from 20K Hz pulse by DSP control						
	Frequency	50Hz / 60Hz						
	Frequency regulation	+/- 1%						
	Range of phase lock	+/- 5Hz						
	Range of lock released	> +/- 5Hz						
	Range of lock back	+/- 3Hz						
	Wave	Sine wave						
	Load crest factor	3 : 1						
Total harmonic distortion	Less 3% for linear load							
Static Switch	Transfer way	When inverter and utility are synchronized at same phase and voltages, bypass to inverter						
	Transfer time	Bypass to inverter 0ms						
	Efficiency	Normal state, inverter to bypass 0ms						
Charger	Voltage	DC410V						
	Current	Current can be adjusted at 1A, 2A, 3A, 5A, 10A, 15A, 20A, 30A automatically						
	Charging period	Return to 90% from 100% exhausted battery within 8 hours (depending on type of batteries)						
Unit	Battery type	Bank with 12V x 30pcs						
	Backup time	Depending on type of batteries						
	Noise	Less than 60dBA from the surface of 1m away						
Environment	Operating Temperature	0°C ~ 40°C						
	Storage Temperature	-25°C ~ 55°C						
	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing						
Physical size	W x D x H	208/120	530 x 875 x 1010 mm	530 x 960 x 1180 mm	750 x 800 x 1700 mm	TBD		
		380/220	530 x 875 x 1010 mm	530 x 960 x 1180 mm	750 x 800 x 1700 mm	TBD		
Weight	Net weight (kgs)	208/120	427kg	463kg	457kg	543kg	734kg	851kg
		380/220	333kg	343kg	345kg	412kg	544kg	631kg

## Specification

Model Name	ONL-80K33	ONL-100K33	ONL-120K33		
Capacity	80KVA	100KVA	120KVA		
Power	64KW	80KW	96KW		
P.F.	0.8				
Input	Phase	3 Phase 3 wire / 3 Phase 4 wire and ground			
	Voltage range	208V / 120V or 380V / 220V +/- 20%			
	Frequency range	Auto-sensing, 50Hz / 60Hz +/- 5Hz			
	Way of rectifier	3 phase 6 pulses or 12 pulses (option)			
	Efficiency of rectifier	> 97%			
Efficiency of Inverter	> 93%	> 94%	> 94%		
Total Efficiency	> 92%	> 93%	> 93%		
Output	Phase	3 phase 4 wire and ground			
	Voltage range	208V / 120V or 380V / 220V			
	Voltage regulation	+/- 1%			
	Transient state	Return to 90% with 4 cycles			
	Overload capacity	Bypass after 30min while overload >100% <125%			
		Bypass after 30sec while overload =125% <150%			
		Bypass after 30 cycles while overload exceed ≥150%			
	Way of inverter	Sine wave modulated from 20K Hz pulse by DSP control			
	Frequency	50Hz / 60Hz			
	Frequency regulation	+/- 1%			
	Range of phase lock	+/- 5Hz			
	Range of lock released	> +/- 5Hz			
	Range of lock back	+/- 3Hz			
	Wave	Sine wave			
	Load crest factor	3 : 1			
Total harmonic distortion	Less 3% for linear load				
Static Switch	Transfer way	When inverter and utility are synchronized at same phase and voltages, bypass to inverter			
	Transfer time	Bypass to inverter 0ms			
	Efficiency	Normal state, inverter to bypass 0ms			
Charger	Voltage	DC410V			
	Current	Current can be adjusted at 1A, 2A, 3A, 5A, 10A, 15A, 20A, 30A automatically			
	Charging period	Return to 90% from 100% exhausted battery within 8 hours (depending on type of batteries)			
Unit	Battery type	Bank with 12V x 30pcs			
	Backup time	Depending on type of batteries			
	Noise	Less than 60dBA from the surface of 1m away			
Environment	Operating Temperature	0°C ~ 40°C			
	Storage Temperature	-25°C ~ 55°C			
	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing			
Physical size	W x D x H	208/120	1100 x 800 x 1800 mm	1100 x 800 x 1800 mm	TBD
		380/220	750 x 800 x 1700 mm	6pulse 750x800 x1700 mm	12pulse 1100 x 800 x 1800 mm
Weight	Net weight (kgs)	208/120	1284kg	TBD	TBD
		380/220	752kg	TBD	12pulse 1280kg

● ON LINE UPS-ONL-33 series

# ONL-33 series

The best 3 phase double conversion UPS

## Specification

Model Name	ONL-160K33	ONL-200K33	ONL-250K33
Capacity	160KVA	200KVA	250KVA
Power	128KW	160KW	200KW
P.F.	0.8		
Input	Phase	3 Phase 3 wire / 3 Phase 4 wire and ground	
	Voltage range	380V / 220V +/- 20%	
	Frequency range	Auto-sensing, 50Hz / 60Hz +/- 5Hz	
	Way of rectifier	12 pulses	
	Efficiency of rectifier	> 97%	
Efficiency of Inverter	> 95%		
Total Efficiency	> 94%		
Output	Phase	3 phase 4 wire and ground	
	Voltage range	380V / 220V	
	Voltage regulation	+/- 1%	
	Transient state	Return to 90% with 4 cycles	
	Overload capacity	Bypass after 30min while overload >100% <125%	
		Bypass after 30sec while overload =125% <150%	
		Bypass after 30 cycles while overload exceed >150%	
	Way of inverter	Sine wave modulated from 20K Hz pulse by DSP control	
	Frequency	50Hz / 60Hz	
	Frequency regulation	+/- 1%	
	Range of phase lock	+/- 5Hz	
	Range of lock released	> +/- 5Hz	
	Range of lock back	+/- 3Hz	
	Wave	Sine wave	
	Load crest factor	3 : 1	
Total harmonic distortion	Less 3% for linear load		
Static Switch	Transfer way	When inverter and utility are synchronized at same phase and voltages, bypass to inverter	
	Transfer time	Bypass to inverter 0ms	
	Efficiency	Normal state, inverter to bypass 0ms	
Charger	Voltage	DC435V	
	Current	Current can be adjusted at 1A, 2A, 3A, 5A, 10A, 15A, 20A, 30A automatically	
	Charging period	Return to 90% from 100% exhausted battery within 8 hours (depending on type of batteries)	
Unit	Battery type	Bank with 12V x 32pcs	
	Backup time	Depending on type of batteries	
	Noise	Less than 65dBA from the surface of 1m away	
Environment	Operating Temperature	0°C ~ 40°C	
	Storage Temperature	-25°C ~ 55°C	
	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing	
Physical size	W x D x H	208/120	TBD
		380/220	1450 x 830 x 1900 mm
Weight	Net weight (kgs)	208/120	TBD
		380/220	1577kg

# Power Generation Plant UPS

Intelligent, digitalized, and true galvanic isolation online design specially designed for Power Plants.



- Double conversion on-line system
- IGBT inverter design
- UPS controlled by Digital Signal Processor(DSP)
- True galvanic isolation
- Cold start function(DC power on)
- High resolution 320\*240 dots graphs LCD display
- Smart RS-232 or RS-485 communication port
- Remote control panel(option)
- Sine wave pulse width modulation(SPWM)
- Pure sine wave output less than 3% THD
- UPS status display on LED flowchart
- 20KHz high frequency inverter
- Versatile modular design
- Generator compatible
- Multi-function LCD display
- IBM AS-400 interface communication port(option)
- Short circuit and overload protection
- Emergency power off function
- Multiple language LCD display
- On line output voltage selected
- Anti-harmonic filters included(option)
- Intelligent maintenance system

## Specification

Model Name	PGP-10K31	PGP-15K31	PGP-20K31	PGP-30K31	PGP-40K31	PGP-50K31	PGP-60K31	PGP-80K31	PGP-100K31	PGP-120K31
Capacity	10KVA/8KW	15KVA/12KW	20KVA/16KW	30KVA/24KW	40KVA/32KW	50KVA/40KW	60KVA/48KW	80KVA/64KW	100KVA/80KW	120KVA/96KW
Power factor	0.8									
AC Input	Phase	3 phase 3 wire / 3 phase 4 wire and ground								
	Voltage range	380V/380V or 380V/220V +/- 20%								
	Frequency range	Auto-sensing, 50Hz/60Hz +/- 5 Hz								
	Regulation style	3 phase 6 pulses			3 phase 12 pulses					
	DC voltage	DC 220V / DC 110V			DC 220V					
	Efficiency of rectifier	≥ 97%								
Efficiency of Inverter	≥ 90%									
Total Efficiency	≥ 85%									
Output	Phase	Single phase								
	Voltage range	220V or 230V or 240V								
	Voltage regulation	+/- 1%								
	Transient state	Return to 90% with 4 cycles								
	Overload capacity	Bypass after 10min while overload 100%~125%, after 60sec while overload 125%~150%, after 10sec while overload 150%~200%, after 5 cycle while overload ≥200%								
	Frequency	50Hz / 60Hz								
	Frequency regulation	+/- 0.2%								
	Range of phase lock	+/- 5 Hz								
	Range of lock released	> +/- 5 Hz								
	Range of lock back	+/- 3 Hz								
Wave	Sine wave									
Load crest factor	3 : 1									
Total harmonic distortion	Linear load <3%									
Static Switch	Transfer way	When inverter and utility are synchronized at same phase and voltage, bypass to inverter								
	Transfer time	Bypass to inverter 0ms								
	Efficiency	Normal state, inverter to bypass 0ms								
Environment	Operating Temperature	0 ~ 40 °C								
	Storage Temperature	-25 °C ~ 55 °C								
	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing								
Physical size	W x D x H mm	800 x 600 x 1800	800 x 800 x 1800			1100 x 800 x 1800			1600 x 800 x 1800	
			40K(DC220V)	800x800x1800	40K(DC110V)		1100x800x1800			
Weight	Net weight kgs	370	510	600	750	840(DC220V)	1190	1210	1295	1650
						970(DC110V)				None



## Vanguard-33 series

- On-Line, double conversion operating, AC/DC-DC/AC with the possibility to connect it in parallel.
- Advanced PWM inverter technology, with operating frequency at 10kHz.
- Digital control by microprocessor
- RS-232/485 communication ports and automatic closing files
- SNMP (TCP/IP) environment
- Advanced battery management (ABM)
- Permissible overload: 125% for 10 minutes, 150% for 1 minute.
- EMI/RFI filter incorporated.
- Use of IGBT transistors at inverter and automatic data logger for events and alarms.
- Independent phase regulation
- Static and maintenance bypass as standard at all models.
- Redundant and parallel versions
- User's interface by LCD panel, set at 2 languages

### Specification

Model Name	VGD-10K33	VGD-15K33	VGD-20K33	VGD-30K33	VGD-40K33	VGD-50K33	VGD-60K33	VGD-80K33
Capacity	10KVA	15KVA	20KVA	30KVA	40KVA	50KVA	60KVA	80KVA
Rating Power	8KW	12KW	16KW	24KW	32KW	40KW	48KW	64KW
Power Factor	0.8							
Technology	On-line, double conversion, multiprocessor control							
Input	Voltage	220V / 380V, 230V / 400V, 240 / 415V (3 Phase 4 wire)						
	Input range	+/- 15%						
	Frequency	50Hz / 60Hz +/- 5%						
	Rectifier-charger	With soft start						
	PFC	PF > 0.97						
Output	Voltage	220V / 380V, 230V / 400V, 240 / 415V (3 Phase 4 wire)						
	Accuracy	+/- 1% at steady state.						
		+/- 2% at dynamic state (load fluctuations 100% ~ 0% ~ 100%)						
	Frequency	50/60Hz synchronized +/-4%						
		free running +/-0.05%						
	Slew rate	+/- 1Hz/s						
	Waveform	Sine-wave						
	Efficiency	90% to 92%						
	Total Harmonic Distortion	< 3%						
	Phase displacement	120° +/-1% (balanced load)						
		120° +/-2% (imbalances 50% of the load)						
	Dynamic recovery time	10 ms, at 98% of the state value						
	Admissible overload	125% (10'), 150%(1')						
	Admissible crest factor	3 : 1						
	Imbalance output voltage with load 100% unbalanced	< 2%						
Static Bypass	Type and activation criteria	Solid state						
	Voltage	220V / 380V, 230V / 400V, 240 / 415V (3 Phase 4 wire)						
	Frequency	50 or 60Hz						
	Activation criterion	Microprocessor control						
	Transfer time	Nil						
	Admissible overload	400% for 10s Short circuit for 40ms						
Passage to Bypass	Immediate, for overloads of over 160%							
Manual Bypass	Type	Without interruption						
	Voltage	220V / 380V, 230V / 400V, 240 / 415V (3 Phase 4 wire)						
	Frequency	50 or 60Hz						
Batteries	With batteries	YES						
	Battery test	YES, programmable						
Communication	RS-232/485 ports as standard and AS-400							
Charger	Technology	PWM						
	Charging current	0.2C						
	Float voltage	13.6V						
	Recharging time	From the end of back-up time to 80% of the total charge 3 to 4 hours depending on the power of the device (depending on type of batteries)						

Model Name	VGD-10K33	VGD-15K33	VGD-20K33	VGD-30K33	VGD-40K33	VGD-50K33	VGD-60K33	VGD-80K33	
Environment	Noise level	<60 dBA (at 1m. distance and 100% load)							
	Operating temperature	From 0° to 40° C							
	Protection UNE 2032478IR	IP20							
	Electromagnetic compatibility	EN50091-2							
	Safety	EN-50091-1, EN-60950							
	Marking	CE							
	Quality	ISO-9001							
	Connection	By input / output terminals							
	Dielectric rigidity	2,500V AC for 1 min.							
	Ventilation	Forced							
	Humidity	Up to 95% without condensation							
	Maximum working height	2,400 M s.n.m							
	Dimension D x W x H (mm)	755 x 600 x 1255 mm						1000 x 700 x 1480 mm	
	Weight (kg)	200	250	310	400	520	650	770	TBD



# INVERTER

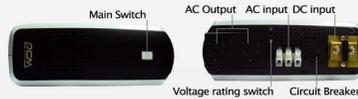
The Top-Quality System  
to Power Future's mobile world.



## Inverter Charger Hi-Frequency

The top-quality system to power future's mobile world

- Fully digitized microprocessor controlled
- LED Indicators front panel
- Short circuit, overload, over charge voltage, over temp. protection
- Cold start (DC power on)
- Advanced Battery Management
- Up to 8A charging current
- User selection Narrow / Wide range input voltage
- Auto charging when UPS off
- Overload shutdown, auto return to normal mode after overload alarm is disabled



### Specification

MODEL	ICH - 550		ICH - 1050		
Capacity (VA / W)	550VA / 330W		1050VA / 630W		
INPUT	Voltage	120 / 230V AC			
	Voltage Range (V)	Narrow : 90 ~ 144	Wide : 50 ~ 144	Narrow : 170 ~ 280	Wide : 90 ~ 280
	Frequency Range (Hz)	50 or 60 Hz +/-10% (auto sensing)			
OUTPUT	Voltage (V)	Simulated sine wave at 120 / 230 +/-10% (DC MODE) Sine wave follow I/P Voltage (AC MODE)			
	Frequency (Hz)	50 or 60 Hz +/-0.3Hz			
	Wave Form	Simulated sine wave (DC MODE) Sine wave (AC MODE)			
	Efficiency	AC to AC	>95%		
TRANSFER TIME	Bypass to Inverter (ms)	7ms typical			
	Inverter to Bypass (ms)	7ms typical			
LINE / INV	High voltage Transfer	Narrow : 138 ~ 150	Wide : 138 ~ 150	Narrow : 264 ~ 287	Wide : 264 ~ 287
	High voltage Recovery	Narrow : 132 ~ 144	Wide : 132 ~ 144	Narrow : 253 ~ 275	Wide : 253 ~ 275
	Low voltage Transfer	Narrow : 84 ~ 96	Wide : 44 ~ 56	Narrow : 163 ~ 182	Wide : 80 ~ 100
	Low voltage Recovery	Narrow : 90 ~ 102	Wide : 49 ~ 61	Narrow : 174 ~ 194	Wide : 86 ~ 106
LED DISPLAY	Line Mode	Green LED			
	Battery Mode	Yellow LED			
	Battery Fault / Over Load	Red Led (1)			
	Over Temp	Red Led (2)			
PROTECTION	Overload Protection	UPS / INV automatic shutdown if over load exceeds			
	Short Circuit Protection	UPS / INV output cut immediately			
	Thermal Protection	(1) FAN ON (2) Over Temp. LED ON, 3min later UPS / INV cut off			
DC INPUT	Voltage / Load	12 Vdc		24 Vdc	
	Voltage Range	10 ~ 14.5 Vdc		20 ~ 29 Vdc	
CHARGER	Charging Voltage	13.7 Vdc		27.4 Vdc	
	Charging Current	8A		6A	
	Over Charge Protection	14.5 Vdc		29 Vdc	
COOLING	Forced air with fan				
WEIGHT	Kg (lb)	1.6 (3.52 lb)		1.8 (3.96 lb)	
DIMENSION	W x D x H (mm)	123 x 136 x 102 (4.8" x 5.4" x 4.0")			
AUDIBLE NOISE	< 40dBA (1 meter from surface)				
ENVIRONMENT	Temperature	0 ~ 40 deg C			
	Humidity	0 ~ 95% humidity			

### OUTPUT RECEPTACLE OPTION



## INVCHA-Low

The low frequency inverter with fast charger

- Fully digitized microprocessor controlled
- Back up, on-line, battery status, power status display by software
- Smart RS-232 communication port
- On-line, battery status LED
- Short circuit and overload protection
- 50/60Hz frequency auto sensing
- Cold start (DC power on)
- Advanced battery management (ABM)
- History record of power failure events
- Schedule shutdown & reboot
- Up to 70A charging current
- Charging current can be adjusted by selector



ICL-1700W



### Specification

Wall Mount Model	ICL-1700W		
Power Rating	1500W normal 1700W max.		
DC Input	DC Voltage	12V	24V * 48V *
	DC Voltage Range	12V +/-2V	24V +/-4V 48V +/-8V
AC Output	Waveform	Simulated Sinewave	
	Frequency	50Hz or 60Hz (Auto sensing)	
	Voltage	100/110/115/120V or 220/230/240V	
	Voltage Regulation	+/- 5% (INV Mode), +10% -15% (Line mode)	
	Frequency Stability	+/- 1Hz (INV Mode), +/-10% (Line mode)	
Overload Protection	> 110% for 60 seconds, >130% for 3seconds		
Charging Current (can be adjusted by selector)	70A max	35A max	17.5A max
Protection	Inside Protection	Overload protection	
		Over temperature protection	
		Short circuit protection	
		Input DC voltage limit protection	
Noise Level	1M. distance	< 45 dBA	
LED Indicators	Red	1.LED off when battery in float charging	
		2.LED flashes slowly when battery in absorption charging	
		3.LED flashes fastly when battery is low capacity	
		4.LED illuminates when battery is fault	
Alarm	Green	LED illuminates when UPS in line mode	
	Yellow	LED illuminates when UPS in backup mode	
Environment	Battery Back-up	Slow beeping sound (about 0.47Hz)	
	Battery Low	Rapid beeping sound (about 1.824Hz)	
Interface	Over Load / UPS Fault	Continually beeping sound	
	RS232	Battery low detecting, UPS on/off scheduling, AC output power status display.	
Physical Size	W x D x H (mm)	225 x 582 x 205 (8.9" x 22.9" x 8.1")	
Net Weight	Kgs (lb)	26.2 (57.64 lb)	

\* DC Input Voltage 24V or 48V is Optional.

### OUTPUT RECEPTACLE OPTION



# INVERTER

The Top-Quality System to Power Future's mobile world

- LCD display indicators front panel
- Pure sine-wave output less than 3% THD
- Smart RS-232 communication port
- SNMP management capability
- Management software compatible
- Overload & short-circuit protection
- Load and battery status indicator
- Fan speed auto control when loads varies
- Load segmentation receptacles controllable
- Emergency power off function
- Multiple language LCD display
- On line output voltage selected



INV-700-1000-LCD RM



INV-1000-3000-LCD RM

## Specification

19" Rack-mount		INV-700 LCD RM	INV-1000 LCD RM	INV-1500 LCD RM
Power rating	P.F.=0.7	700VA/ 490W	1000VA/ 700W	1500VA/ 1050W
DC Input	DC Voltage	+/- 48V		
	DC voltage range	+/- 40-56 VDC		
AC output	Waveform	Pure Sine-wave		
	Frequency	50Hz or 60Hz (Option)		
	Voltage	100/110/115/120/127V or 200/208/220/230/240V		
	Voltage regulation	+/- 2 %		
	Frequency stability	+/- 0.5 %		
	Power factor	0.7 (lagging)		
	Harmonic distortion	<3% of T.H.D. at linear load		
	Overload detection	>110% for 1 minute, >130% +/-10% for 3 seconds Crest factor ratio 3:1		
Efficiency	DC to AC	> 82 %		
Protection	Inside protection	Overload protection		
		Over temperature protection		
		Short circuit protection		
		Input DC voltage limit protection		
Noise level	1m. distance	< 45 dBA		
LCD Display	Status	Indicate inv, backup, fault, bat capacity, load capacity, O/P voltage, inside temperature, fault status		
	Alarm	Input DC voltage	The first warning will beep every 5 seconds to indicate battery in use. The second warning will beep twice every 5 seconds to signal battery low condition.	
Environment	UPS fault	Continuous beeping sound		
	Temperature	0°C ~ 40°C		
Interface	Humidity	0%~95% (Non condensing)		
	Dry contact	Sends battery low signals, and receives shutdown signal from computer.		
	RS232	Detect battery low, Schedule UPS on/off, AC output power status display.		
Physical size WxDxH mm (inch)	Option	Novell, SNMP, Windows NT, Windows 95/98		
	19" rack-mount	428 x 525 x 44 (16.9" x 20.7" x 1.7")	428 x 425 x 84 (16.9" x 16.7" x 3.3")	
Net weight kgs (lb)	19" rack-mount	9.5 (20.9 lb)	17.5 (38.5 lb)	

### OUTPUT RECEPTACLE OPTION



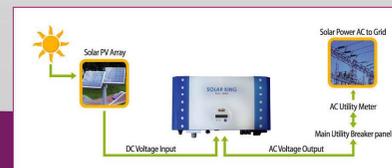
# Solar King

Powercom Solar King, the most advanced grid PV-inverter in the world. Converting sun light into electricity energy for home/industrial applications, and powering up our world with free solar energy is now no longer just a dream.



## Specification

MODEL	SLK-1500	SLK-2000	SLK-3000	SLK-4000	
Input Data	Maximum input power	1750W	2340W	3510W	4700W
	Max. input voltage	500VDC			
	Maximum PV open voltage	360 ~ 400V			
	Nominal DC voltage	150V to 500V +/-5%			
	MPPT voltage range	100 +/-5%			
	System start-up voltage	100 +/-5% ~ 500 -5% +0%V			
	Initial feeding voltage	150V +/-5%			
	Max. input current	7.5ADC	10ADC	15ADC	20ADC
	Full rating working range	200V to 500V			250V to 500V
	Shutdown voltage	80V typical			
	DC voltage ripple	< 10%			
	DC insulation resistance	> 8M ohm			
	DC switch	ON / OFF 20A			
	Attached DC connector	Tyco-contact (1 pair)			
DC connector	Tyco-contact (1 pair) - cable type			Tyco-contact (3 pair)	
Output Data	Nominal output power	1500W	2000W	3000W	4000W
	Maximum output power	1650W	2200W	3300W	4400W
	Operational voltage range	198V, minimum 256V, minimum			
	Operational normal voltage	230Vac			
	Operational frequency range	50/60Hz, auto selection 47.5 ≤ f <sub>in</sub> ≤ 50.2 for 50Hz; 59.3 ≤ f <sub>in</sub> ≤ 60.5 for 60Hz <sup>1</sup>			
	Nominal output current	6.6A	8.7A	13.0A	17.4A
	O/P current distortion	THD <5%, each harmonics <3%			
	Power Factor	>0.99			
	DC current injection	<0.5% of rated inverter output current			
	Output Data	Internal power consumption	< 7W		
Standby power (at night)		< 0.1W			
Minimum conversion efficiency (DC / AC)		< 90% Under input voltage >210V, load>20%			
Maximum conversion efficiency (DC / AC)		>94%	>95%	>95%	>96%
European Efficiency		>93%	>94%	>94%	>95%
Ground current detection range		0 ~ 500mA			
Ground current detection frequency		0 ~ 700Hz			
Protection degree		IP 65 or IP43			
Operation temperature		-25 to 55°C			
Humidity		0 to 95%, non-condensing			
Heat Dissipation		Convection			
Acoustic noise level		< 40dB, A-weighted, frequency up to 20kHz			
Altitude		Up to 3000m without power derating, 5°C derated for each additional 500m			
Physical : W x D x H (mm)		352 x 300 x 133	352 x 300 x 133	352 x 300 x 143	550 x 300 x 133
Physical : Weight (kg)	14	14	14	21	
Shipping : W x D x H (mm)	460 x 460 x 265	460 x 460 x 265	460 x 460 x 265	660 x 460 x 265	
Shipping : Weight (kg)	16	16	16	23	



AVR-TAP-CHANGE AVR



AVR

Automatic Voltage Regulator offers substantial power stability 7/24.

TCA-1200/2000VA

## TAP-CHANGE AVR

Full Automatic & Electronic Voltage Regulator

- Flexible input utility voltage range
- Power efficiency more than 95%
- Output surge protection circuit
- Reliable IC chip design
- Output overload protection combined with recoverable manual circuit breaker
- Output short protection combine with recoverable manual circuit breaker
- Available for all kind of sensitive instruments
- Step by step status LED display
- Network signal protection circuit
- Telecom signal protection circuit

### Specification

MODEL	TCA-1200	TCA-2000
POWER RATING	1200VA	2000VA
POWER FACTOR	0.5	
AC INPUT	Frequency	50Hz or 60Hz
	Phase	1 Phase 2 Wire
	Voltage Range	(110V, 115V, 120V or 220V, 230V, 240V) +/-15%
	Amount Used	To Smaller Than 10W
AC OUTPUT	Frequency	50Hz or 60Hz
	Phase	1 Phase 2 Wire
	Voltage Regulation (AVR)	(110V, 115V, 120V or 220V, 230V, 240V) +/-5%
EFFICIENCY	95%	
ENVIRONMENT	Operation Humidity	0% ~ 95% (Non Condensing)
	Operation Temperature	0°C ~ 40°C
	Preserve Temperature	-20°C ~ 55°C
	Preserve Elevation	< 10000M
	Operation Elevation	< 3500M
LED INDICATORS	Power ON	Green Color LED
	Step Power Down	Orange Color LED
	Step Power Up	Orange Color LED
PROTECTION	Over Load	Manual Reset Circuit Switch
	Short Circuit	Manual Reset Circuit Switch
	Surge Protection	Varistor
	Internet Communication	Option
	Data Phone Communication	Option
NET WEIGHT	W x D x H (mm) 123 x 136 x 102 (4.8" x 5.4" x 4.0")	
DIMENSION	Kg (lb)	1.0 (3.52 lb) 1.8 (3.96 lb)

TCA-1200/2000



- Step-Down Indicator LED
- Power Indicator LED
- Step-Up Indicator LED

TCA-1200/2000



- Power Switch
- TEL & NET Port (option)
- Output Outlet
- Power Cord



# HI-AVR-LCD

## High Frequency IGBT – Full Automatic & Electronic Voltage Regulator

- Wide input voltage windows (+/-25%)
- Excellent voltage regulation : +/-1% output
- Compatible with linear and non-linear load
- Overload, high voltage & low voltage protection
- Compact size, light weight & low noise
- Linear voltage regulator provides higher reliability
- Over 95% high efficiency cuts down your expense
- High performance design with innovative techniques
- CPU operation ensuring reliability and constant protection
- Built-in surge suppressor (MOV), EMI & LC filters provide pure output
- Sinewave Pulse Width Modulation (SPWM), IGBT inverter design
- Patent No.132036 already be issued.



AR-5K/7.5K/10K-LCD

AR-15K/20K-LCD

### Specification

Model	AR-5K-LCD		AR-7.5K-LCD		AR-10K-LCD		AR-15K-LCD		AR-20K-LCD		
	110V	220V	110V	220V	110V	220V	110V	220V	220V		
Power rating	P.F.=0.7 3.5KW		5.25KW		7KW		10.5KW		14KW		
AC Input	Frequency	50 Hz or 60 Hz									
	Voltage	110V, 220V, System 1 Ø 2W									
	Range	110V : +/-15% , 220V : +/- 25%									
AC Output	Voltage	110V, 220V, System 1 Ø 2W									
	Voltage Regulation	Typical +/-1%									
	Frequency	50 Hz or 60 Hz									
	Efficiency	>95%									
	Power Factor	+/- 0.7									
	Distortion	< 3% of T.H.D. at linear load									
AVR	Operation	SPWM (Sinewave Pulse Width Modulation)									
	Component	IGBT & MOSFET inside									
	Operation Frequency	20KHz									
Environment	Temperature	0°C-40°C									
	Humidity	0%-95% (Non condensing)									
Protection	Output Over/Under Voltage	✓									
	Output Over Load	Buzzer alarm (Option : cut off output)									
	Surge Protection	Varistor									
	Noise Protection	E.M.I. Or LC filter									
Indicator	LCD	Indicate line, bypass, inv, fault, load capacity, I/P voltage, I/P frequency, O/P voltage, O/P frequency, inner temperature, O/P current									
Maintenance	Manual Bypass Switch	Option									
Physical size	W x D x H (mm)	258 x 392 x 423 (10.1" x 15.4" x 16.7")						258 x 531 x 546 (10.2" x 20.9" x 21.5")			
	Weight	Net weight	25 kgs	27 kgs	28.3 kgs	30 kgs	59 kgs	64 kgs			

Characteristics Subject To Change Without Prior Notice

# HI-AVR 33 Series

## High Frequency IGBT – Full Automatic & Electronic Voltage Regulator

- Wide input voltage range (+/-25%)
- Excellent +/-1% output voltage regulation
- Compatible with linear and non-linear load
- Overload, high voltage & low voltage protection
- Compact size, light weight & low noise
- Linear voltage regulator provides higher reliability
- Input phase detector protection
- Over 95% high efficiency cuts down your expense
- High performance design with innovative techniques
- CPU operation ensuring reliability and constant protection
- Built-in surge suppressor (MOV), EMI & LC filters provide pure output
- Sinewave Pulse Width Modulation (SPWM), IGBT inverter design
- Patent No.132036 already be issued.



AR-15K33/30K33

### Specification

Model	AR-15K33		AR-30K33	
	10.5 KW	21 KW		
Power rating	P.F.=0.7 10.5 KW		21 KW	
AC Input	Frequency	50 Hz or 60 Hz		
	Voltage	120V / 208V, 220V / 380V, System 3 Ø 4W		
	Range	+/-15% , +/- 25%		
AC Output	Voltage	120V / 208V, 220V / 380V, System 3 Ø 4W		
	Voltage Regulation	Typical +/-1%		
	Frequency	50 Hz or 60 Hz		
	Efficiency	Typical >95%		
	Power Factor	+/- 0.7		
	Distortion	< 3% of T.H.D. at linear load		
AVR	Operation	SPWM (Sinewave Pulse Width Modulation)		
	Component	IGBT & MOSFET inside		
	Operation Frequency	20KHz		
Environment	Temperature	0°C-40°C		
	Humidity	0%-95% (Non condensing)		
Protection	Output Over/Under Voltage	✓		
	Output Over Load	Buzzer alarm (Option : cut off output)		
	Surge Protection	Varistor		
	Noise Protection	E.M.I. Or LC filter		
Indicator	LCD	Indicate line, phase order fault, fault, load capacity, I/P voltage, I/P frequency, O/P frequency, O/P voltage, inner temperature, O/P current		
Maintenance	Manual Bypass Switch	✓		
Physical size	W x D x H mm	258 x 562 x 679 (10.1" x 22.1" x 26.7")		
	Weight	Net weight	69.5 kgs	96 kgs

Characteristics Subject To Change Without Prior Notice

TBD : To be Done

# AUDIO VIDEO

Your best power solution for home theater system

Powercom AV-UPS series provide different level of digital power protection to your home entertainment systems, media centers and other electronics. AV-UPS series help to prevent noise interruption, data loss, viewing interruptions, lost recordings and loss of component programming.

Models	AVU-600AP	AVU-800AP	AVU-1000AP	AVU-1200AP	AVU-1500AP
Input					
Voltage Range	110,115,120 or 220,230,240Vac +/- 25%		110,115,120 or 220,230,240Vac +/- 25%	100,110,120,127Vac +/- 25%	
Frequency Range	50Hz or 60Hz ± 10%		50Hz or 60Hz ± 10%	60Hz ± 5Hz	
Current Rating	8Amps		110/115/120:15Amp 220/230/240:8Amps	9 Amps	12 Amps
C.B. Rating	110/115/120:8Amp	220/230/240:8Amps	110/115/120:15Amp 220/230/240:8Amps	15 Amps	15 Amps
<b>Output</b>					
Capacity (VA/W)	600VA/360W	800VA/480W	1000VA/500W	1200 VA/720 W	1440 VA/900 W
Current Rating	8 Amps		110/115/120: max 10Amp 220/230/240: max 46Amps	9 Amps	12 Amps
Voltage Rating	Simulated sine wave at nominal voltage ± 5%		Simulated sine wave at nominal voltage ± 5%	AC mode: 120V ± 8-12%, battery mode: ± 5%	
Frequency Range	50Hz or 60Hz ± 1%		50Hz or 60Hz ± 1%	AC mode: follow AC, battery mode: ± 0.5%	
AVR	BUCK and BOOST AVR		BUCK and BOOST AVR	BUCK and BOOST AVR	
Transfer Time	10 ms maximum		10 ms maximum	10 ms maximum	
	6 -8ms typical		6 -8ms typical	6 -8ms typical	
Outlet Type	NEMA 5-15P / IEC320 / German		NEMA 5-15P / IEC320 / German	NEMA 5-15R	
# of Outlet	NEMA 5-15P: 5+5 / German: 2+1		NEMA 5-15P: 10 / German: 5	NEMA 5-15P: 12	
<b>Battery</b>					
Type/Quantity	12V/7.2AH * 1	12V/9AH * 1	12V/9AH * 1	12V/7.2H*3	12V/9AH*3
Hot-swappable	N/A		N/A	Yes	
Backup Time	1 minutes @ 100% load 8 minutes @ 50% load	1 minutes @ 100% load 7 minutes @ 50% load	9 minutes @ 50% load	24 minutes @ 50% load	15 minutes @ 50% load
Recharge Time to 90%	< 6 Hours.	< 6 Hours.	< 6 Hours.	< 6 Hours.	
Surge energy rating	1500 Joules		3000 Joules	4380 Joules	
Display	DIGITAL DISPLAY		LCD DISPLAY	LCD DISPLAY	
<b>Features</b>					
RS-232	N/A		N/A	Yes	
IR & learning mode	N/A		N/A	Yes	
USB	yes		Yes	Yes	
Ext. Battery Connector	N/A		N/A	option	
Coax	2 pair		3 pair	3 pair	
Ethernet	RJ45/RJ11: 1in/2Out		RJ - 45, 1 in, 2output	RJ-45, 1 in, 1 output	
Telephone/DSL			RJ - 11, 1 in, 1 output	RJ-11, 1 in, 1 output	
DC Trigger	N/A		N/A	5_30V, 1 in, 1 output	
Programmable Outlet	N/A		N/A	Yes	
Display Dimmer	Yes		Yes	Yes	
System Ground Screw	N/A		N/A	Yes	
<b>Physical</b>					
Dimensions	255(w)x264(d)x87.8(h)mm	255(w)x264(d)x87.8(h)mm	430(w)x324(d)x88(h)mm	430(w)x508(d)x88(h)mm	
Weight	7.9 KG	8.6 KG	11.8 KG	27.3 KG	28 KG



## Specification

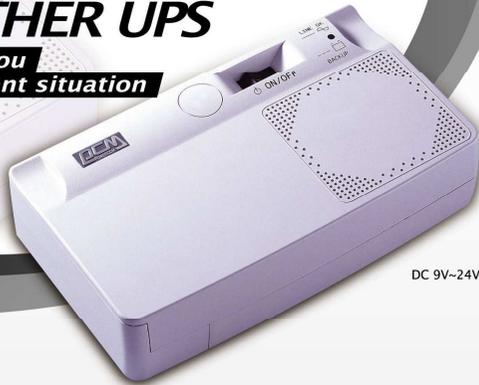
Models	AVS-3000	AVS-4000	AVS-6000
Input			
Voltage Range	120Vac	120vac	120Vac
Frequency Range	60Hz	60Hz	60Hz
Current Rating	15 Amps	15 Amps	15 Amps
C.B. Rating	15 Amps	15 Amps	15 Amps
<b>Output</b>			
Capacity (VA/W)	1800W	1800W	1800W
Current Rating	15 Amps	15 Amps	15 Amps
Voltage Rating	Dependent Input Sources: - 2Vac	Dependent Input Sources: - 2Vac	Dependent Input Sources: - 2Vac
Frequency Range	Dependent Input Sources	Dependent Input Sources	Dependent Input Sources
Outlet Type	3 - prong, NEMA 5 - 15P	3 - prong, NEMA 5 - 15P	3 - prong, NEMA 5 - 15P
# of Outlet	3 - prong, NEMA 5 - 15P, 10x	3 - prong, NEMA 5 - 15P, 10x	3 - prong, NEMA 5 - 15P, 10x
<b>Battery</b>			
Surge energy rating	1850 Joules	2775 Joules	2775 Joules
Display	LED DISPLAY	LED DISPLAY	LED DISPLAY
<b>Features</b>			
Coax	3 pair ultra low loss, Protected 2.5GHz coaxial connections for cable TV/HDTV	3 pair ultra low loss, Protected 2.5GHz coaxial connections for cable TV/HDTV	3 pair ultra low loss, Protected 2.5GHz coaxial connections for cable TV/HDTV
Telephone/DSL	RJ - 11, 1 in, 2 output	RJ - 11, 1 in, 2 output	RJ - 11, 1 in, 2 output
DC Trigger	~5 30V, 1 in, 1 output	~5 30V, 1 in, 1 output	~5 30V, 1 in, 1 output
Programmable Outlet	Yes	Yes	Yes
Display Dimmer	N/A	N/A	Yes
System Ground Screw	24K Gold Contact Plug	24K Gold Contact Plug	24K Gold Contact Plug
<b>Physical</b>			
Dimensions	435(w)x280(d)x88(h)mm	435(w)x320(d)x88(h)mm	435(w)x380(d)x88(h)mm
Weight (N.W./G.W.)	6.0 / 7.1 KG	7.5 / 8.3 KG	8.6 / 9.5 KG

## OUTPUT RECEPTACLE OPTION



# OTHER UPS

Other UPS devices to provide you the safety power in different situation



DC 9V-24V

## DC UPS Series

High performance DC power protection small electronic equipment.

- Exquisite design
- Processor operated
- Easy installation and maintenance
- LED signal for AC mode, DC mode, battery fault
- Automatic shutdown
- Automatic start up when AC is detected
- User friendly design of swapping battery
- Cold start (DC power on)
- Short circuit and overload protection
- Full time detection utility power status
- No transfer time
- Wide AC input voltage windows (+/-25%)
- Line ok, back-up LED display
- Special request 86V to 276V input voltage is optional
- Output DC 9V, 12V, 18V, 24V, 48V depend on customer request



### Specification

MODEL		DC 9V UPS	DC 12V UPS	DC 18V UPS	DC 24V UPS	DC 48V UPS
OUTPUT	Capacity (W)	30 W	30 W	30 W	30 W	52.8 W
	No. of sockets	Two DC UPS Sockets				
	Voltage (on battery)	+/- 10%	+/- 15%	+/- 10%	+/- 10%	+/- 4%
	Transfer Time	<5 millisecond				
	LED (on battery)	Green LED flash every 3 seconds				
INPUT	Voltage (single phase)	AC 110V/220V +/-25% at line input (optional : 86V ~ 276V at line input)				
	Frequency	50 or 60Hz				
	LED (on AC mode)	Green LED always light				
PROTECTION	Unit Input	Fuse for overload & short circuit protection				
	Overload Protection	UPS automatic shutdown if overload				
	Short Circuit	UPS output cut off immediately				
BATTERY	Type	Sealed, maintenance-free lead acid batteries, with 3-6 years typical lifetime				
	Typical Recharge Time (to 90% of full capacity)	4 hours				
	Back-up Time (depend on load)	90 - 120 minutes				
	Protection	Shutdown when battery voltage drops below 10V / 20V, Over discharge protection, short circuit protection by fuse.				
PHYSICAL	Net Weight kg (lbs)	3.0 (6.6)				
	Dimension W x D x H (mm)	267 x 155 x 64 (10.5" x 6.1" x 2.5")				
	Battery Low	Rapid beeping sound every 3 seconds				
ALARM ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity (No-condensing water), 0-40°C				
	Audible noise	< 40dBA (1 meter from surface)				

## HOME UPS

The first Home UPS with modular time extension

- The lightest UPS in the world with the longest discharge time
- Built-in Automatic Voltage Regulator (AVR) and Surge Protection Circuitry to protect any damages caused by lightning and unstable power input.
- Discharge time can be extended, when an extra stackable type battery pack is added. (Battery packs can be stacked up to 5 sets)
- Perfect for home appliances such as, TV, VCR, Fax machine, Combo stereo system, Electrical fan, Table lamp, fish tank pump...etc.
- Completely automatic, no complicated operations needed.
- Completely digitized microprocessor controlled with line-interactive design.
- Stylish design with front panel LED displaying Line-input, Load and Battery status.
- Cold start without AC input to be operated during a power outage
- Low noise compared with a generator.
- Guaranteed quality from ISO 9001 certified professional manufacturer.



### Specification

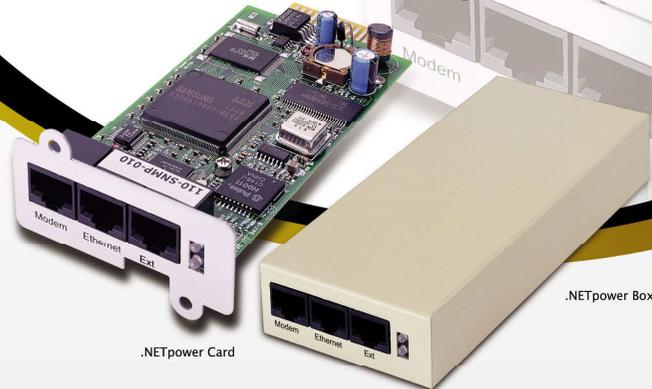
MODEL		HOM-400A	HOM-600A	HOM-1000A
INPUT	Voltage	+/-25% at line input		
	Capacity	400VA	600VA	1000VA
	Frequency	50 or 60 Hz +/-10% (auto sensing)		
OUTPUT	Voltage (on battery)	Simulated sine wave at 100V/115V/230V +/- 5%		
	Frequency (on battery)	50 or 60 Hz +/-1Hz		
	Voltage Regulation (AVR)	AVR automatically increases output voltage 15% above input voltage, if -9% to -25% of nominal. AVR decreases output voltage 13% below input voltage, if +9% to +25% of nominal.		
	Transfer Time	2/4 milliseconds, including detection time		
	Spike Protection	80 Joules, 2ms		
PROTECTION and FILTERING	Overload Protection*	UPS automatic shutdown if overload exceeds 110% of nominal at 60 seconds and 130% at 3 seconds		
	Unit Input	Fuse or circuit breaker for overload & short circuit protection		
	Short Circuit	UPS output cut off immediately (firmware) or input fuse, circuit breaker protection		
BACK-UP TIME	PC	1.5 hours	2 hours	1 hours
	PBX (100W)	2.5 hours	2 hours	1.6 hours
	Fax machine (40W)	6.5 hours	13.5 hours	4.3 hours
	29" TV	1.8 hours	2.5 hours	1.2 hours
	Electrical fan (60W)	6 hours	12 hours	4 hours
	Combo Stereo system	8 hours	15 hours	5 hours
	Table lamp (20W)	8 hours	15 hours	5 hours
BATTERY	Quantity of batteries in main unit	3	4	2
	Type	Sealed, Maintenance-free lead acid		
	Recharge Time	6 hours typically (to 90% of full capacity)		
	Protection	Automatic self-test & discharge protection, replace battery indicator		
ALARM TYPE	Additional Battery Pack**	None	Type I	Type II
	DC Voltage	12V (DC)		
		24V (DC)		
Dimension	main unit	Net Weight Kg (lbs) 12.8 (28.2 lbs)	17.5 (38.5 lbs)	15 (33.0 lbs)
	battery pack	Dimension(mm)WxDxH 130 x 382 x 195 (5.1" x 15" x 7.7")	360 x 340 x 91 (14.2" x 13.4" x 3.6")	130 x 382 x 201 (5.1" x 15" x 7.9")
OTHERS	Battery Back-up	Slow beeping sound (about 0.47 Hz)		
	Battery Low	Rapid beeping sound (about 1.824 Hz)		
	Overload	Continue beeping sound		
ENVIRONMENT	Operating Environment	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-40°C		
	Noise Level	< 40dBA (1 meter from surface)		

\* For long back-up time requirement, half load is maximum. \*\*Selecting correct type of additional battery pack is a must when requiring extended run time.

#### OUTPUT RECEPTACLE OPTION



# .NET POWER SNMP/WEB CARD/BOX



.NETpower Card

.NETpower Box

## .NETpower SNMP/WEB Card/Box

The .NETpower card/box provides you with a very advanced yet easy-to-use network management function. It supports both SNMP and HTTP.

SNMP (Simple Network Management Protocol) is used widely in network management field. With the support for SNMP, the .NETpower turns the UPS into an industrial standard network management device. You can use an SNMP NMS (such as HP OpenView, IBM NetView...) to manage your UPS over LAN or Internet.

Moreover, the .NETpower card will create a web site for your UPS. You can view the information of the UPS and control the UPS remotely as easily as surfing on a web site. In addition to the network management function, it will notify you when an event occurs, and even shut down multiple systems on the LAN.

### FEATURES

#### Network Interface

UTP Fast Ethernet 10/100 auto-sense

#### Serial Port

Used as a console port or connected to a MODEM allowing PPP dial-in and paging.

#### Extension Port

Connected to an extended device such as environment measurement.

#### Real Time Clock

Time can be adjusted by SNTP.

#### Setup/Configuration

Allows setup via telnet or console.

#### Firmware Upgradeable

Upgrades firmware via a web browser or TFTP.

#### Multiple System Shutdown

Sends a shutdown signal to shut down multiple systems on LAN.

#### Event Notifications

Includes network message, OnEvent multimedia message, email and page.

#### SNMP Network Management

Supports SNMP v1.0 and v2.0. Supports RFC 1213 (MIB-II), RFC 1628 (UPS MIB), and private UPS extension MIB. Compatible with any standard SNMP NMS such as HP OpenView, IBM NetView...

#### Web Network Management

Supports HTTP 1.0 protocol. Combined with HTML, JavaScript and Java Applet.

#### Telnet Management

Allows management via telnet.

#### Graphic Information Management

Includes Power Meter, Block Diagram, Power Scope, and Log Analysis.

#### Event Logging

Contains all UPS-related events

#### Data Logging

A collection of the UPS power quality.

#### Scheduling

Perform shutdown, startup, and self-test according to the scheduling settings.

#### Flexible Event Action

Provides flexible event action feature.

#### Controlling UPS

Allows you to shut down, reset, or test the UPS remotely.

#### Configuring UPS

Allows you to configure the UPS remotely.

#### Password Security

Provides password protection.

Multilingual

### Information Management

The .NETpower allows you to view the information and status of the UPS locally or remotely. It presents the information in graphic formats from some different point of view: inside activity, power meters, and scope chart.

The .NETpower maintains two log files

- an event log file which contains all UPS-related events, such as power failures, shutdowns, power recoveries, etc.
- a data log file which is a collection of the UPS power quality, including input voltage, output voltage, battery voltage, temperature, etc.

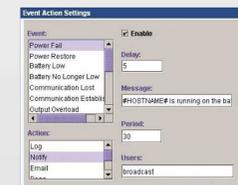


### OnEvent



OnEvent is a new notification technology, which can exchange multimedia message over LAN, regardless of operation system. When a power event occurs, a multimedia message box will be displayed on each computer with OnEvent software installed. It is also a shutdown agent which will shut down the system when receiving a shutdown signal from the .NETpower card.

### Flexible Event Action



You can define actions for each event.

The .NETpower will perform actions according to your definitions when an event occurs. The actions include logging, network notification, email, paging, executing command file, and system shutdown.

### Scheduling



The .NETpower allows you to set up the schedule for your UPS so that it can shutdown/startup the system or initiate self-test automatically according to your settings.

### Ordering Information

.NETpower Card (internal model)

Model No : NPC-100

.NETpower Box (external model)

Model No : NPB-200

The .NETpower is an advanced version of the UPS s/w that has the following awards:



● UPSMON/UPSMON® UPS monitoring software

# UPSMON

Remote control and monitoring your power backup system from powercom.



## UPSMON® UPS monitoring software

If you are seeking a superior protection to saving valuable documents and applications during power outage situation UPSMON plus is the iron clad program that can be trusted. With easy-to-use features, UPSMON plus provides excellent power management for any PC platforms including Novell NetWare and LINUX.

Most of the LAN environments and PCs use the UPS for protection during power failure and preventing data lost. However, this is not sufficient simply because the UPS can only provide limited battery output and abnormal power output when power failure occurs. Someone still have to shutdown the file server, or there would be possibility of abnormal power down and operating system corruption.

UPSMON plus is an intelligent power monitoring software that detects the status of UPS through communication port. When power failure occurs, the software senses the status and will immediately broadcast warning messages to users. When internal timer begins countdown to the zero, software will close the entire files, shutdown the systems, and turn off UPS power switch. If power recovered during the timer count down period, the monitoring software will broadcast a power restore message to users, and systems will not be shutdown and operation will be maintained. During the timer count down period, if the software goes into battery low status, software will notify the systems to shutdown in 1 minute (default).



## UPSMON Series Software

Includes UPSMON plus, UPSMON plus WEB, UPSMON plus WEB Server, UPSMON plus Network, UPSMON plus Network Slave, UPSMON plus Network Manager.

### UPSMON® plus



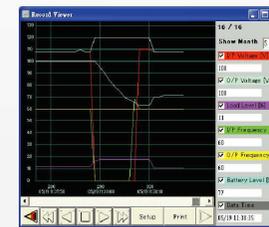
This UPS monitoring program is compatible to Windows 95/98/ME/NT/2000/XP/2003\*, Novell NetWare and LINUX. UPSMON plus program will execute automatically before the user logs into the system and it can automatically turn ON/OFF the system according to the scheduled (default) ON/OFF setup. UPSMON plus can provide call pager function. With this function, it can always obtain the latest status of the system by transmitting information codes to the system manager function and the user can choose the event types to be displayed. History recorder can record the power status anytime. Scheduled ON/OFF function provides the machine the ability to turn on and shutdown automatically by daily, weekly, monthly, or specific day.

The auto shutdown function can also be set up by daily, weekly, monthly, or specific day. The auto shutdown function also works during power interrupted or during battery low conditions. UPSMON plus can configure the turn-off countdown time, the power events window, and the choice of Window events indication.

The Pop-up of the event status windows can also be set-up, if desired.

\*USB communication cannot support Windows 95 & NT.

### Power Quality Data Log Analysis



Tracks power data such as input/output voltage & frequency, load & battery capacity and ambient temperature for power problem diagnostic.

### Schedule System Shutdown/Reboot

UPSMON plus features a schedule shutdown/reboot function that provides the ability to manage the power to your PC.

### Power Events Log

UPSMON plus tracks and records all power events such as input/output voltage, power failure, low battery and system boost/shutdown.

### Featuring :

- Automatically search COM1~COM4 and USB port.
- User notification of power events.
- UPS Battery low warning.
- UPS power events log for up to one year.
- Broadcast power abnormal status.
- Printing power events list.
- Graphic display by meter.
- Real-time graphical display.
- Battery level display.
- Power quality data log.
- Automatic shutdown.
- Automatic reboot.
- Smart save file.
- Scheduled system shutdown/reboot, UPS test.
- Compatible to Windows 95/98/ME/NT/2000/XP/2003\*.



USB Cable



Supports browser monitoring

## UPSMON plus WEB Server

UPSMON plus WEB Server apply HTTP and SNMP internet protocol to provide LAN/WAN to monitor UPS.

Operating systems that are supported by UPSMON plus WEB server include Windows 95/98/ME/NT/2000/XP/2003\*.

UPSMON plus WEB Server can link with another UPSMON plus WEB Server to perform remote monitoring. UPSMON plus WEB Server is also able to support single UPS that monitors up to 32 computers or workstations that could boot/shutdown simultaneously.

UPSMON plus WEB Server supports SNMP PROTOCOL that linked with HP OPENVIEW and other SNMP management UPSMON plus WEB Server support SNMP PROTOCOL that linked with HP OPENVIEW and other SNMP management software.

UPSMON plus WEB Server event log can notify MIS staff through email and pager. If messages are sent through email, it can be distributed to multiple administrators that become an integrated UPS monitoring software.

UPSMON plus WEB Server has all UPSMON plus features, and can be activated before user logs into the system.

\*USB communication cannot support Windows 95 & NT.



UPSMON plus WEB enable users to monitor UPS through RS232 communication port and SNMP management utilities.

**UPSMON plus Network V.S. SNMP ADAPTER CARD**

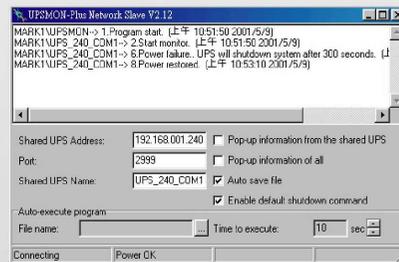
	UPSMON® plus Network for Windows 95/98/ME/NT/2000/XP/2003*	UPSMON® plus Network for Novell NetWare	SNMP Adapter	UPSMON® plus for Windows 95/98/ME/NT/2000/XP/2003*	UPSMON® plus for Novell NetWare
<b>Networking Management</b>					
Network Protocol	TCP/IP	TCP/IP	SNMP		
Build in LAN	★	★	★		
Remote Monitoring	★	★	★		
Multi-System Remote Control	Unlimited	Unlimited	4		
Message Broadcasting	★	★			
Server Shutdown Support	★	★	★	★	★
Multi-Server Shutdown Support	Unlimited	Unlimited	20		
Support HP Openview	★		★		
Remote UPS Monitoring	95/98/ME	1	N/A	N/A	N/A
Units Allowed on the Network	4	1	1	1	1
Units Allowed on Remote Monitoring	★	1	1		
Software Demand	PC	PC	SNMP CARD	PC	PC
<b>Basic Monitoring &amp; Shutdown Function</b>					
Scheduled Boot/Shutdown	★	★	★	★	★
History/Event log	Unlimited	Unlimited	1000 logs	Unlimited	Unlimited
Multi-lingual Support	★	★	★	★	★
<b>UPS Status and Testing</b>					
Self Diagnostic	★	★	★	★	★
Battery Low Warning	★	★	★	★	★
Real-time Graphical Display	★	★	★	★	★
Battery Level Display	★	★	★	★	★
<b>Environmental Monitoring</b>					
Warning Message by E-mail	★				
Warning Message by Pager	★	★		★	★
Event Log	★	★	★	★	★
Power Quality Daily Log	★	★		★	★
Printed Power event List	★			★	★
Graphic Display by meter	★			★	★

\*USB communication cannot support Windows 95 & NT.

**UPSMON® plus Network S (Slave)**

UPSMON plus Network S(Slave) provides the users with auto shutdown function on the net. One can receive the message and the broadcast from UPSMON plus Network on the net. This software can be used on multi-servers shutdown. To prevent the user from changing the setups of main UPS that may result in threatening the network security, this software will not be able to adapt or monitor the UPS.

UPSMON plus Network Slave supports Multi platform LINUX, FreeBSD, Solaris, and Windows 95/98/ME/NT/2000/XP/2003. UPSMON plus Network S program will execute automatically, even before user logs into the system.

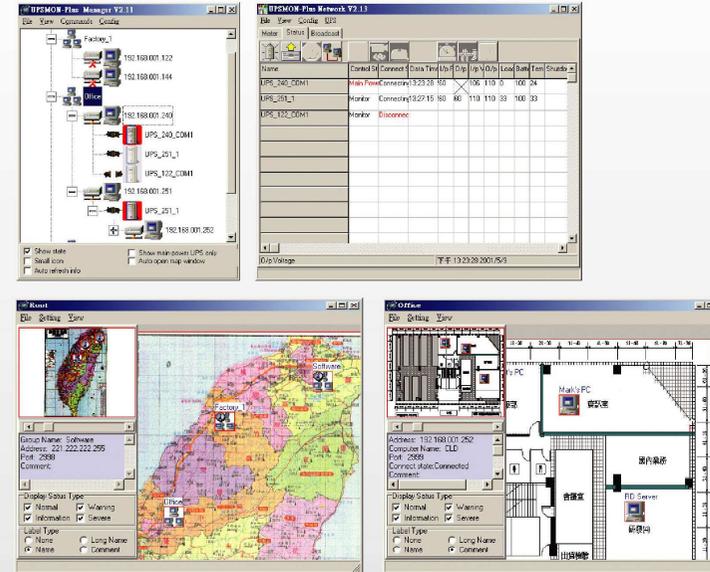


**Featuring :**

- Allows station to share UPS power from other UPS connected to other station in the network.
- Able to receive broadcast message and UPS event log.
- Supports broadcast receiving pop-up or hide-out.
- Compatible to Windows 95/98/ME/NT/2000/XP/2003.

**UPSMON® plus Network M (Manager)**

UPSMON plus Network M(Manager) provides graphical UPS network management interface that supplies the UPS groups setup on the net using easy-to-follow procedures. It can manage up to 1500 units of UPS, and has an overall electrical layout. It includes features such as power interruption, power deficiency, schedule shutdown, communication interruption, self-test, battery bad, over load and shutdown countdown. UPS can be managed by geographical location in order to perform group management. If combined with UPSMON plus Network, it can automatically be added into the group by free choosing provided by the UPSMON plus Network manager.



**Featuring :**

- Remote monitoring for all the UPS's within the network.
- Remote setup for adding UPS connection.
- Allows event message broadcasting and user write up.
- Allows UPS event log and hide irrelevant events.
- UPS management grouping.
- Able to manage up to 1500 units of UPS's.
- Enable multi-layer map management tool to manage UPS in dedicated area, and to monitor the UPS status.

**RS-232-to-USB Converting Cable (Compatible to Windows 98/Rev.2/ME/2000/XP/2003)**

The RS-232-to-USB converting cable has a RS-232 connector on one end and an USB connector on another. It enable UPS with conventional RS-232 connector to interface easily with computer with USB port.

**UPSMON plus Power Wizard for USB**

UPSMON plus Power Wizard for USB is very easy to install and use. It can automatically detects Smart link that enable automatic communication between UPS and computer. The screen will display AC power Normal or AC Power Failure, Power by UPS Battery, and UPS Battery Capacity. Users can configure the Battery Level which dictates the software when it should shut down the Windows system or turn off the UPS. One can also select AutoSave Files first before executing the shutdown Windows. UPSMON plus Power Wizard software support Windows 98's power managing software.

**Easy Installation with USB Communication Port**

Once the POWERCOM Smart link is connected to USB communication port, the computer automatically start up the driver.

