SmartPower

Your Smart choice for UPS

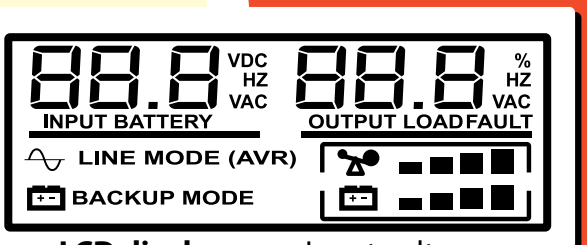
Atom

The Highest Trustful Small UPS

เครื่องควบคุมและสำรองไฟฟ้า
ระบบ Line interactive
สมรรถนะสูง มาตรฐาน CE

คุณสมบัติ

- มีระบบปรับแรงดันไฟฟ้าอัตโนมัติ สามารถใช้งานได้ทั่วประเทศ
- ควบคุมการทำงานด้วย Microprocessor
- ทนทานกว่าด้วยเทคโนโลยี Full Bridge Inverter
- ชาร์จแบตเตอรี่เร็วกว่าด้วยเทคโนโลยี Super Charger
- สำรองไฟได้นานกว่าด้วยหม้อแปลง Super-Lowloss
- Universal Socket รองรับปลั๊กไฟฟ้าทุกประเภท
- ผลิตและออกแบบตามมาตรฐาน มอก. และ CE
- ออกแบบให้สามารถเปลี่ยนแบตเตอรี่ได้ง่าย Battery hot swap *รุ่น1k ขึ้นไป
- ผลิตภัณฑ์เป็นมิตรกับสิ่งแวดล้อมตามข้อกำหนด RoHS ในยุโรป



LCD display	- Input voltage
- AC mode	- Output voltage
- Battery mode	- Overload
- Load level	- Fault
- Battery level	- Low battery

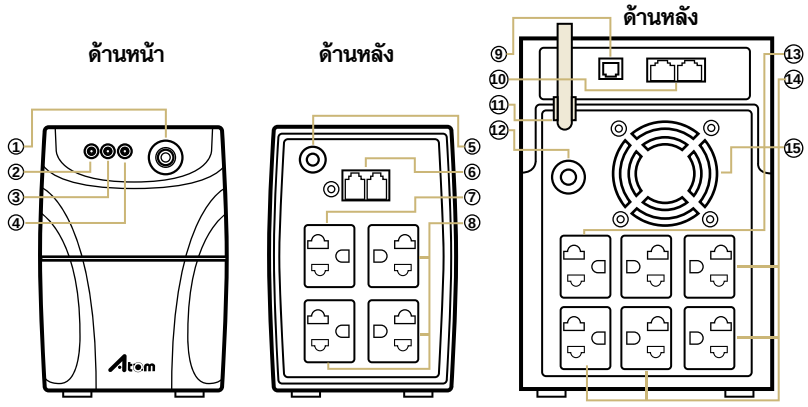
ISO 9001:2008 ISO 14001 CE

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

Specification

คุณสมบัติทางไฟฟ้า	Model	ATOM-800-LED ATOM-800-LCD	ATOM-800i-LED ATOM-800i-LCD	ATOM-1000-LCD	ATOM-1500-LCD	ATOM-2000-LCD
Catacity	ขนาดพิกัด	800VA / 320Watt	800VA / 480Watt	1000VA / 600Watt	1500VA / 900Watt	2000VA / 1200Watt
INPUT	ด้านขาเข้า					
Voltage	แรงดัน	220 VAC				
Voltage Range	ช่วงแรงดัน	220 VAC +20% -26%				
Frequency Range	ช่วงความถี่	50 Hz ±10%				
OUTPUT	ด้านขาออก					
AC Voltage Regulation	แรงดัน	220VAC ±10%				
Frequency (Batt.Mode)	ความถี่	50Hz ±0.5%				
Transfer Time	เวลาโอนย้าย	Typical 4-8 ms				
Waveform (Batt. Mode)	รูปคลื่น	Modified-Sinewave				
BATTERY	แบตเตอรี่					
Battery Type	ประเภท	12V5Ah / 12V7Ah / 12V9Ah (Seal Lead Acid Maintenace Free)				
Typical Recharge Time	เวลาประจุ	Recharge Time 6 hours to 90% after complete discharge				
Backup Time	เวลาสำรองไฟฟ้า	15-30 minutes (Depend on load)				
Battery Number	จำนวน	1x12V5Ah		2x12V7Ah	2x12V9Ah	
INDICATORS	การแสดงผล					
LCD Display		AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Overload, Fault, and Low Battery				
LED Display – Normal / Overload	ไฟฟ้าปกติ/เกินพิกัด	Green solid / blinking				
LED Display – Backup / Low batt.	จ่ายไฟสำรอง/แบตต่ำ	Yellow solid / blinking				
LED Display – Fault / Replace batt.	เครื่องเสีย/เปลี่ยนแบต	Red solid / blinking				
PROTECTION	การป้องกัน					
Full Protection	ระบบป้องกัน	Discharge, Overcharge, and Overload Protection				
ALARM	การแจ้งเตือน					
Battery Mode	จ่ายไฟฟ้าจากแบตเตอรี่	Sounding every 10 seconds				
Low Battery	แบตเตอรี่แรงดันต่ำ	Sounding every 1 second				
Overload	ใช้กำลังไฟเกิน	Sounding every 0.5 second				
Fault	เครื่องผิดปกติ	Continuously Sounding				
PHYSICAL	ด้านกายภาพ					
Outlet (Universel Style)	จำนวนเต้าไฟฟ้า	3 + 1 bypass		5 + 1 bypass		
Dimension, DxWxH (mm)	ขนาดเครื่อง	280X100X143 / 290X100X143 (LCD)		364X139X195		
Net Weight (kgs)	น้ำหนัก	4.49 / 4.59 (LCD)	4.79 / 4.93 (LCD)	10.40	12.13	12.15
OPERATING ENVIRONMENT	สภาพแวดล้อมใช้งาน					
Humidity	ความชื้น	0-90% RH @ 0-40°C (non-condensing)				
Noise Level	ระดับเสียงรบกวน	Less than 40 dB				
MANAMENT & MONITORING	ระบบควบคุมตรวจสอบ					
Optional USB	ทางเลือก	WinPower Monitoring S/W for Windows Family, Linux, Sun Solaris, IBM AIX, Compaq True64, SGI IRIX, FreeBSD, HP-UX and MAC				
International Standard	มาตรฐานนานาชาติ					
CE	มาตรฐานยุโรป	Low Voltage Directive (Safety):EN62040-1:2008, EMC Directives: IEC62040-2 C2,CISPR 22 Class A				

Specification are subject to change without prior notice.



ส่วนประกอบภายนอก

1. Power on/off
2. Battery mode
3. AC mode
4. Fault mode
5. Input cord
6. TEL. line
7. Bypass
8. UPS output
9. USB interface
10. LAN line
11. Input cord
12. Breaker
13. Bypass
14. UPS output
15. FAN grill

เอกสารออกครั้งที่ 2 วันที่ 31-5-56

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

SmartPower

Your Smart choice for UPS

Pure Sine Wave
Line Interactive UPS

RADIAN 500VA ~ 1.5kVA

Radian series of line interactive UPS provides pure sine wave AC output with better harmonic distortion than traditional line interactive UPS in step wave output. Radian series is available for 500VA, 750VA, 1000VA, 1500VA capacity. For data center with Rack mount demand, you can adapt the optional rack kit to install the Radian 1000VA & 1500VA in 19" rack. This series provides you satisfying reliable performance and maximize the flexibility for your system integration.

- Microprocessor control
- Equipped with Boost and Buck AVR to stabilize output voltage
- High frequency design with high DC-AC efficiency
- Pure Sine Wave output
- Built-in DC start function enables UPS to be started up without AC power supplied
- 2 in 1 design Tower & Rack 19" (for 1 & 1.5k)
- Green power function for energy saving
- Auto restart while AC recovery
- Provides Modem/Phone-Line surge protection
- Provides Discharge, Overcharge and Overload Protection
- Auto charge even though UPS is off
- Easy battery replacement design (Battery hotswap)
- Build-in dry contact/RS232/USB interface for software communication port

Your smart choice for UPS

500/750VA

1000/1500VA

RADIAN SERIES LINE INTERACTIVE SINEWAVE UPS SPECIFICATION

MODEL		RD500	RD750	RD1000	RD1500
CAPACITY	VA/W (PF)	500VA/300W (PF 0.6)	750VA/500W (PF 0.66)	1000VA/600W (PF 0.6)	1500VA/900W (PF 0.6)
INPUT	Voltage	220 VAC			
	Voltage Range	220VAC +/- 25%			
	Frequency Range	50 Hz +/- 10%			
OUTPUT	Voltage	220 VAC			
	Regulation (Normal Mode)	+/- 10%			
	Regulation (Battery Mode)	+/- 10%		+/- 5%	
	Voltage Waveform	Pure Sine Wave			
	Frequency (Battery Mode)	50 Hz +/- 0.1%			
OVERLOAD CAPACITY	Normale Mode	110% +/- 8%, fault after 8 minutes; 130%+/-8%, fault after 10 cycles minimum			
	Boost/Buck Mode	70% +8%/ - 4%, overload alarming after 25 minutes, fault after 30 minutes			
	Battery Mode	110% +/- 8%, fault after 30 seconds; 120%+/-8%, fault after 5 cycles minimum			
TRANSFER TIME	Typical	2 ms			
EFFICIENCY	Normal Mode	> 95% (Rated full load, battery full charged)			
	Boost/Buck Mode	> 90% (Rated full load, battery full charged)			
	Battery Mode	> 80% (Rated full load, battery full charged)			
BATTERY & CHARGER	Configuration	12V7Ah x 1 Pcs	12V9Ah x 1 Pcs	12V7Ah x 2 Pcs	12V9Ah x 2 Pcs
	Type	Sealed Lead Acid Maintenance-free			
	Recharge Time	< 6 hours to 90%	< 8 hours to 90%	< 6 hours to 90%	< 8 hours to 90%
BACKUP TIME	50% load Backup Time	12'00"	8'00"	11'00"	10'00"
	1 PC Backup Time (Typical)	20'00"	26'00"	35'00"	40'00"
INDICATOR	LED Display	UPS Status / Load Level / Battery Level / Fault			
AUDIBLE ALARM	- Backup mode	Sounding every 10 seconds			
	- Battery low	Sounding every 1 seconds			
	- Overload	Sounding every 0.5 seconds			
	- Over charge	Sounding every 1.5 seconds			
	- Over temperature	Sounding every 2.5 seconds			
	- Battery replacement	Sounding every 3 seconds			
	- Charger fail	Sounding every 5 seconds			
	- Fault	Continuous sounding			
DIMENSIONS	L x W x H	323x96x234.6 mm		390x86x328 mm	
WEIGHT	Weight	5.6 kg	6 kg	9.8 kg	10.2 kg
ENVIRONMENT	Operation Temperature	0°C to + 40°C			
	Raletive Humidity	0 to 90% Relative Humidity (Non-condensing)			
	Audible Noise @1 meter	< 40 dBA		< 45 dBA	
CERTIFICATES	CE	Safety Conformance: EN62040-1-1			
		EMC: EN62040-2 C2, EN62040-2, EN61000-3-2			

* Product specifications are subject to change without further notice

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

Claire

Line Interactive True Sinewave **UPS**

SmartPower

Your Smart Choice for UPS

Infinite Power in the Digital World

True Sinewave Claire series are available in 750, 1000, 1500, 2000, and 3000 VA sizes which have been designed for computer workstations and servers, sensitive equipments, and security systems. The systems enable to protect your computer system and save your work because they are powerful to stabilize and regulate the output voltage against any spike, sags, and blackouts from any power sensitive electronics. And the series are also specially designed for 19 inches rackmount and tower.

Features:

- Microprocessor control guarantees high reliability
- Built-in Boost and Buck AVR to stabilize the Output Voltage
- Pure Sine Wave Output
- High Frequency design with higher power density
- Green Power function to save the battery capacity with no load
- Extendable backup time with External battery Cabinet
- Seal Lead Acid Maintenance Free Battery type
- User Selectable Output Voltage
- User Selectable Line Sensitive
- Two In One Design, Tower & 19" Rack Mount
- The separated UPS and EBM design for 1.5 & 2Kva is available for different installation environment
- Smart RS-232 / USB / Dry-Contact Communication Port
- Free download software from the internet to monitor UPS status
- "Easy-to-read status indicators and easy-to-use controls with audible" alarms for critical warnings
- Overload, Short-Circuit, and Overheat Protection
- Hot Swappable / User-Replaceable battery design
- Intelligent slot allows remote monitoring, start-up or restart for connected equipment

SmartPower
Your Smart Choice for UPS

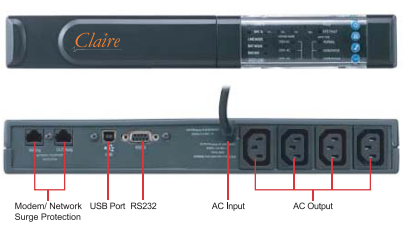
Claire
Line Interactive True Sinewave UPS

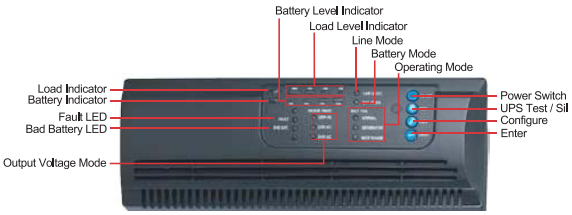
CLAIRE SERIES LINE INTERACTIVE SINEWAVE UPS SPECIFICATION

MODEL			Claire 750/1000	Claire 1500/2000	Claire 3000
	VA/W		750VA/375W;1000VA/700W	1500VA/900W ; 2000VA/1200W	3000VA/2100W
INPUT	Voltage		220 +/- 20%		
	Frequency Range		50 Hz ±5Hz for Normal Mode; >40Hz for Generator Mode		
	Surge Rating (LV/HV)		320 / 230 Joules	430 / 250 Joules	500 / 640 Joules
OUTPUT	Voltage		220 +/- 10%		
	Voltage Regulation (Batt. Mode)		220 ±5% RMS for entire battery voltage range		
	Frequency		50Hz		
	Frequency Regulation (Batt. Mode)		±0.1%		
	Waveform		Pure Sinewave		
	Redundancy (Option)		Hot Standby With STS technology (2 units Max)		
Overload Rating	Line Mode		110% -0%, +8%; shutdown after 3 minutes. 150% -0%, +10%; shutdown after 10 cycles		
	Battery Mode		110% ± 6%; shutdown after 30 seconds. 120 % ± 6 %; Shutdown after 5 cycles		
TRANSFER TIME	Typical		2 ms		
BATTERY Battery	Battery Type*		12V/7AH ; 12V/9Ah	12V/7AH ; 12V/9Ah	12V/5Ah
	Battery Number		2 pcs	4 pcs	8 pcs
	Backup Time (depends on computer load)		15-30 minutes		
	Battery hot swap		YES		
	Battery Protection		Battery Overcharges/Battery deep discharge/Auto self test/Fan failure protection		
	Recharge Time		4 hours to 90%	3 hours to 90% after discharged	
INDICATORS	AC Mode		Line LED lighting		
	Backup Mode		Battery LED flashing every 4 seconds		
	Site Fault		Site Fault LED lighting (For 120Vac Models)		
	Load/Battery Level		4-segment LED bar- 0-25% : 4th LED lighting 26%-50% : 3rd and 4th LEDs lighting		
			51%-75% : 2nd, 3rd, and 4th LEDs lighting		
			76%-100% : 4 LEDs in a row all lighting		
	UPS Fault		Fault LED Lighting		
	Overload		OverLoad LED lighting		
	Low Battery		Battery LED flashing every second		
AUDIBLE ALARM	Backup Mode		Sounding every 4 seconds		
	Low Battery		Sounding every second		
	UPS Fault		Continuously Sounding		
	Overload		Sounding every second		
	Battery Replacement		Sounding every second		
PHYSICAL	UPS Case	Dimension (WxHxD) mm	235*86.2*383	217*86.5*413.5	438*86.2*582
		Net weight (kgs)	8.6 ; 9.6	6.5	31.5
	Battery Case	Dimension (WxHxD) mm	N/A	217*86.5*413.5	438*86.2*582
		Net weight (kgs)	N/A	12	40.3
ENVIRONMENT	Operating Environment		0- 40±C, 0-90 % relative humidity (non-condensing)		
	Noise Level		Less than 45dB		
INTERFACE	RS-232		Support Windows family, Linux and Mac		
	Dry-Contact		YES	YES	YES
	USB		YES	YES	YES
	SNMP		N/A	Optional	Optional
	EPO		N/A	YES	YES

* Product specifications are subject to change without further notice

Claire 500

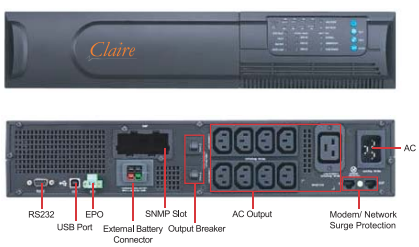




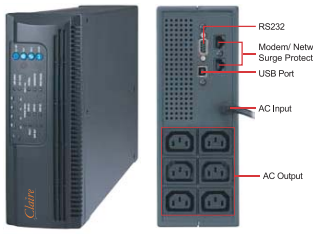
Front Panel

Claire 1500/2000

Claire 3000



Claire 750/1000



The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5
Bangmod,Thungkru,
Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

SmartPower

Your Smart choice for UPS

Titan Elite Series

TE1000

TE2000/TE3000

Titan Elite- True Online Double Conversion Design Pure Sine Wave

The New series is designed for the best cost effective performance. With appropriate quantity of batteries and output PF 0.8., The New Titan Elite offers competitive cost but with reliable performance to meet the entry level on line UPS demand.

With long backup time models are allowed to connect external batteries to get prolonged backup time. The New Titan Elite adopts the 4A super charger board, and the battery recharging time is now able to be shortened and keep in ready status for the next power shortage.

Features:

- True Online Double Conversion Designed
- DSP design enables precise and reliable control
  High efficiency results in energy saving
- Output power factor 0.8
- Wide AC input range (115-300VAC)
- Automatic switching between 50/60Hz system
- LCD & LED display
- Supports AC generator
- Supports DC start-up and auto restart
- Supports USB/SNMP/RS485/AS400 communication card
- Power Management S/W WinPower

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

Specification

Model	TE1000	TE1000S	TE2000	TE2000S	TE3000	TE3000S
Capacity	**1000VA/800W**	**1000VA/800W**	**2000VA/1600W**	**2000VA/1600W**	**3000VA/2400W**	**3000VA/2400W**
Input						
Voltage range	115-300VAC					
Phase	Single phase with ground					
THDi	<10%					
Power Factor	⩾ 0.98 @ R full load					
Frequency Range	40-70Hz					
Generator Set	2.2 x UPS Rating Power					
Output						
Waveform	Pure sine wave					
Nominal voltage	200 / 208 / 220 / 230 / 240VAC					
Voltage regulation	±1 %					
Voltage distortion	< 3% @linear load < 3% @non-linear load					
Frequency (synchronized range)	46-54Hz / 56-64Hz					
Frequency (battery mode)	50±.05Hz / 60±.05Hz					
Overload Capability	105%-150% : 60s 150%-200% : 25s~300ms >200% : 200ms					
Load Crest Ratio	3:1					
Transfer Time						
Normal Mode	0ms					
Efficiency						
Line mode	>89%		>90%		>90%	
Battery mode	>83%		>83%	>85%	>83%	>85%
Battery						
Type	Sealed-Lead Acid Maintenance Free					
Voltage/Capacity	12V/7Ah,9Ah	Depends on the capacity of external batteries	12V/7Ah,9Ah	Depends on the capacity of external batteries	12V/7Ah,9Ah	Depends on the capacity of external batteries
Number of Battery	2		4		6	
Backup Time (depend on load)	>15 min		>15 min		>15 min	
Charger						
Charging voltage	27-27.6V	40.5-41.4V	54-55.2V	81-82.8V	81-82.2V	108-110.4V
Charging current (max)	1.0A	6.0A	1.0A	6.0A	1.0A	6.0A
Charging time	<7hr to 90%	Depend on the capacity	<7hr to 90%	Depend on the capacity	<7hr to 90%	Depend on the capacity
Indicator & Alarm						
Display LCD&LED — LCD	Input(Volt/Freq), Output(Volt/Freq), Load (Level/Percentage), Battery (Voltage/Level/Percentage),Warning/Fault Code					
Display LCD&LED — LED	Line LED, Inverter LED, Bypass LED, Battery LED					
Audible Alarm	Battery mode/Battery low/Overload/Fault					
Interface						
RS232	Standard					
Intelligent Slot	USB/SNMP/RS485/AS400 Card					
Dimension & Weight						
WxDxH(mm)	144x345x229		190x393x328		190x393x328	
Net Weight	9.2	4.2	17.2	7.9	22.6	8.3
Environment						
Operating Temperature Range	0° ~ 40 °					
Audible Noise	<45dB					
CE Declaration	Low Voltage Directive(Safety): EN62040-1:2008(1st edition) EMC Directive: EN62040-2:2006 (EN61000-3-2:2006+A1:2009+A2:2009,EN61000-4-2:2009, EN61000-4-3:2006+A1:2008+A2:2010, EN61000-4-4:2012,EN61000-4-5:2006,EN61000-4-6:2014,EN61000-4-8:2010,EN61000-4-11:2004,EN61000-2-2:2002)					

*Specification are subject to change without prior notice

Titan Elite Series

SmartPower
Your Smart choice for UPS

TE2000,TE3000 TE1000 TE2000S, TE3000S TE1000S

Features

- True online double-conversion design
- DSP Control
- 0.9 Output Power Factor
- Wide Input Range 100-300 VAC
- High Efficiency 97% (ECO mode)
- Frequency Converter Mode
- Input THDI < 5%
- Output THDv < 2% linear load
- Programmable LCD display
- Extendable Run Time
- Recharge to 90% battery capacity within 4 hours
- Free Power Manangement Software
- Optional SNMP & Relay Cards
- Optional Over Voltage Cut-Off device (OVCD) for Tough environment

The New Titan Elite genertion 2 series.

A premium grade entry level for true-online UPS.

TE-G2 Series UPS make use of the unique True Online Double Conversion circuitry to detect the electricity current and voltage output of utility power supply. The current is input via high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over to 0.99 and avoid generating comparatively significant harmonic interference on the power network.

With the use of the outstanding IGBT as the power convertion component, the operating frequency of the Inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of UPS and higher inversion frequency reduces the noise of the inverter as well. Due to its components margins are increased.

Product Information

Titan Elite Series

MODEL		TE1000	TE1000S	TE2000	TE2000S	TE3000	TE3000S
CAPACITY	VA/WATT	1000VA/900W (PF0.9)		2000VA/1800W (PF0.9)		3000VA/2700W (PF0.9)	
INPUT	Voltage Range	100 - 300 VAC					
	Frequency Range	50 Hz ± 10% (Auto sensing)					
	Phase	Single phase with ground					
	Current THDI	<5%					
	Power Factor	>= 0.99					
	Generator Input	2.2 x UPS Rating Power					
OUTPUT	Voltage Range	220 VAC ± 1%					
	Phase	Single phase with ground					
	Frequency (Synchonized Range)	50 Hz ± 10%					
	Frequency (Battery Mode)	50 Hz ± 0.1%					
	Current Crest Ratio	3:1					
	Harmonic Distortion	< 2% THD (Linear Load)					
	Protection	Short Circuit Protection					
	Output Waform	Pure Sinewave					
	Outlet	Thai-Universal					
	Overload Capacity – Line Mode	1 min @ 105%~130% ; 10 sec @ 130% ~ 150% ; 300ms @ >150%					
	Overload Capacity – Battery Mode	1 sec @ 105%~130% ; 1 sec @ 130% ~ 150% ; 300ms @ >150%					
EFFICIENCY	AC Mode / Battery Mode	> 89% / >84%		> 91% / >85%			
	ECO mode	> 97.2%		> 98%			
BATTERY	Number of Batteries Per Set	2	Depending on the capacity of external batteries	4	Depending on the capacity of external batteries	6	Depending on the capacity of external batteries
	Battery Capacity (Ahr)	12V/(7/9)Ahr		12V/(7/9)Ahr		12V/(7/9)Ahr	
	Backup Time (depend on load)	>15 min		>15 min		>15 min	
	Recharge Time (to 90%)	4 Hours		4 Hours		4 Hours	
	Charging Current (Max.)	1.5A	6.0A	1.5A	6.0A	1.5A	6.0A
	Rated Battery Voltage	24 Vdc		48 Vdc		72 Vdc	
	Battery Type	Sealed Lead Acid Maintenance Free					
TRANSFER TIME	AC to DC	Zero					
INDICATOR	LCD	Input information: Voltage / Frequency / Utility Present / Utility Lost, Output information: Voltage / Frequency, Load information: Overload / Short circuit / Load level,Battery infomation: Battery Level / Battery Remaining Time / Battery Low, Mode information: Bypass / Line / Battery /Fault / Warning / Operating-Fault-Warning Code / Operating Mode Icon / Bypass configure: enable-disable					
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds					
	Low Battery	Sounding every second					
	Overload	Sounding twice every second					
	Fault	Continuously Sounding					
DIMENSION	W x H x D mm	144 x 229 x 345	102 x 228 x 352	190 x 330 x 393	102 x 327 x 396	190 x 330 x 393	102 x 327 x 396
WEIGHT	kg	9.4	3.76	17	6	22.2	6.08
ENVIRONMENT	Operating Environment	0-40° C					
	Relative Humidity	0-95% (NON-CONDENSING)					
	Noise Level	<45dB @ 1 Meter		<50dB @ 1 Meter			
INTERFACE	USB (built-in) / RS-232	Software supports Windows Family, Linux, Sun Solaris, IBM AIX, Compaq True64, SGI IRIX, FressBSD, HP-UX and MAC					
	Smart Slot (Option)	SNMP Adapter/ AS400 Relay Card / RS485 / USB					
INTERNATIONAL STANDARDS	CE	ESD: IEC61000-4-2 Level 3, RS:IEC61000-4-3 Level 3, EFT:IEC61000-4-4 Level4, Surge:IEC61000-4-5 Level 4, Conduction:IEC62040-2 Cat C2, Radiation:IEC62040-2 Cat C2 Transportaion: Drop:ISTA 2A, Vibration:internal standard, Protection: IP20 (static)					

Specification are subject to change without prior notice.

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

SmartPower

Your Smart choice for UPS

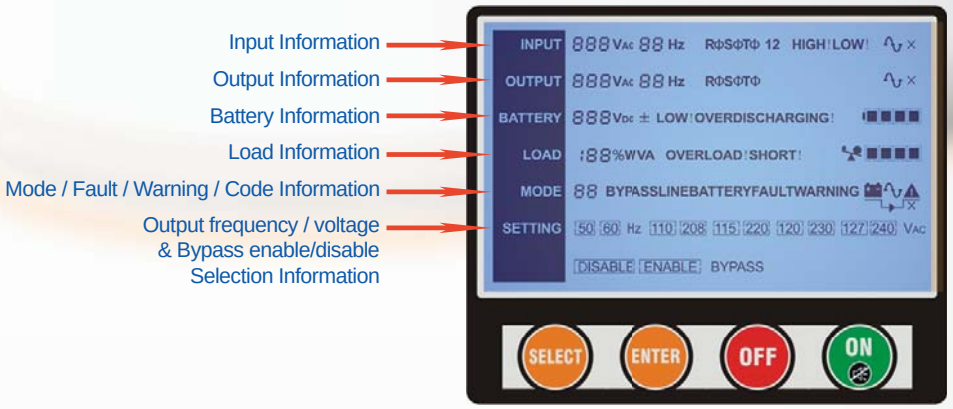
Hercules Series

Features

- DSP Control
- 0.8 Output Power Factor
- Wide Input Range
- High Efficiency Mode (ECO)
- Frequency Converter Mode
- Input THDI < 5%
- Output THDv < 3%
- Auto Self-Testing System
- Extendable Run Time
- Fan Speed Control
- Free Power Manangement Software
- Multiple Communication Port
- Optional SNMP & Relay Cards
- Wide operating environment 0-45 celsious
- Optional Over Voltage Cut-Off device (OVCD) for Tough environment

HE2000, HE3000 HE1000

Trendy & Elegant LCD Design for real-time UPS system information



Hercules series, built for the most reliability, purity and power

Hercules Series UPS make use of the unique True Online Double Conversion circuitry to detect the electricity current and voltage output of utility power supply. The current is input via high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over to 0.99 and avoid generating comparatively significant harmonic interference on the power network.

With the use of the outstanding IGBT as the power convertion component, the operating frequency of the Inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of UPS and higher inversion frequency reduces the noise of the inverter as well. Due to its components margins are increased, Hercules is suitable for higher temperature environment up to 45 celsious.

Product Information

Hercules Series

MODEL		HE1000	HE1000S	HE2000	HE2000S	HE3000	HE3000S
CAPACITY	VA/WATT	1000VA/800W (PF0.8)		2000VA/1600W (PF0.8)		3000VA/2400W (PF0.8)	
INPUT	Voltage Range	110 (±3%) - 300 (±3%) VAC					
	Frequency Range	50 Hz ± 10% (Auto sensing)					
	Phase	Single phase with ground					
	Current THDI	<5%					
	Power Factor	≧0.99					
	Generator Input	1.5 x UPS Rating Power					
OUTPUT	Voltage Range	220 VAC ± 1%					
	Phase	Single phase with ground					
	Frequency (Synchonized Range)	50 Hz ± 10%					
	Frequency (Battery Mode)	50 Hz ± 0.1%					
	Current Crest Ratio	3:1					
	Harmonic Distortion	< 3% THD (Linear Load)					
	Protection	Short Circuit Protection					
	Output Waform	Pure Sinewave					
	Outlet	NEMA					
	Overload Capacity – Line Mode	1 min @ 105%~110% ; 30 sec @ 110% ~ 125% ; 10 sec @ 125%~ 150% ; 1 sec @ > 150%					
	Overload Capacity – Battery Mode	1 min @ 105%~110% ; 20 sec @ 110% ~ 125% ; 8 sec @ 125%~ 150% ; 1 sec @ > 150%					
EFFICIENCY	AC Mode / Battery Mode	> 87% / >84%		> 88% / >85%			
	ECO mode	> 95%					
BATTERY	Number of Batteries Per Set	3	Depending on the capacity of external batteries	8	Depending on the capacity of external batteries	8	Depending on the capacity of external batteries
	Battery Capacity (Ahr)	12V/(7/9)Ahr		12V/(7/9)Ahr		12V/(7/9)Ahr	
	Backup Time (depend on load)	>15 min		>15 min		>15 min	
	Recharge Time (to 90%)	5 Hours		5 Hours		5 Hours	
	Charging Current (Max.)	1.0A	4.0/8.0A	1.0A	4.0/8.0A	1.0A	4.0/8.0A
	Rated Battery Voltage	41.1 Vdc ± 0.6V		110 Vdc ± 0.4V			
	Battery Type	Sealed Lead Acid Maintenance Fee					
TRANSFER TIME	AC to DC	Zero					
INDICATOR	LCD	Input information: Voltage / Frequency / High Voltage / Low Voltage / Utility Present / Utility Lost, Output information: Voltage / Frequency / Utilty Present / UtilityLost, Load information: %Watt / % VA / Overload / Short circuit / Load level, Battery infomation: Voltage / Battery Level / Low / Over charging / Discharging, Mode information: Bypass / Line / Battery /Fault / Warning / Operating-Fault-Warning Code / Operating Mode Icon / Bypass configure: enable-disable					
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds					
	Low Battery	Sounding every second					
	Overload	Sounding twice every second					
	Fault	Continuously Sounding					
DIMENSION	W x H x D mm	145 x 220 x 400		192 x 347 x 460			
WEIGHT	kg	14	7 ex.bat	34.5	15 ex.bat	35.5	16 ex.bat
ENVIRONMENT	Operating Environment	0-45° C					
	Relative Humidity	0-90% (NON-CONDENSING)					
	Noise Level	<45dB @ 1 Meter		<50dB @ 1 Meter			
INTERFACE	USB (built-in) / RS-232	Software supports Windows Family, Linux, Sun Solaris, IBM AIX, Compaq True64, SGI IRIX, FressBSD, HP-UX and MAC					
	Smart Slot (Option)	SNMP Adapter/ AS400 Relay Card / RS485 / USB					
INTERNATIONAL STANDARDS	CE	Low Voltage Directive (Safety): EN62040-1-1 EMC Directive: EN62040-2, EN61000-2-2, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8					

Specification are subject to change without prior notice.

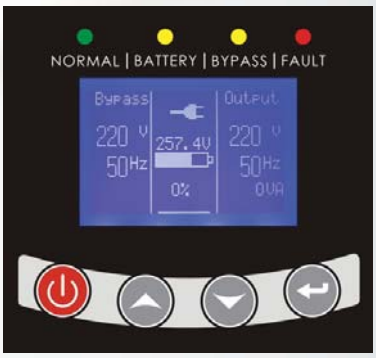
The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

Hercules Tower Series

SmartPower
Your Smart choice for UPS

HIGH PERFORMANCE
TRUE DOUBLE CONVERSION ONLINE UPS

Trendy & Elegant LCD & LED Design
for real-time UPS system information



Features

- DSP Control
- 0.9 Output Power Factor
- Wide Input Range
- High Efficiency Mode (ECO)
- Frequency Converter Mode
- Input THDI < 5%
- Output THDv < 2%
- Output Voltage Regulation <1%
- N+X Parallel Redundancy
- Dot Matrix LCD Display
- Maintenace bypass switch
- Battery Remaining Time Display
- Extendable Run Time
- Fan Speed Control
- Multiple Communication Port Simultaneously
- Over Voltage Cut-Off device (OVCD) for Tough environment
- Emergency Power Off (EPO)
- Short Circuit Clearance with current limit
- Optional SNMP & Relay Cards
- Free Power Manangement Software for Standalone LAN & WAN

Hercules series, built for the most reliability, purity and power

Hercules Series UPS make use of the unique True Online Double Conversion circuitry to detect the electricity current and voltage output of utility power supply. The current is input via high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over to 0.99 and avoid generating comparatively significant harmonic interference on the power network.

With the use of the outstanding IGBT as the power convertion component, the operating frequency of the Inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of UPS and higher inversion frequency reduces the noise of the inverter as well.

Product Information

Hercules Tower Series

Parallel Redundancy N+X

MODEL			HE6k	HE6kS	HE10k	HE10kS
CAPACITY	VA/WATT		6000VA/5400W (PF0.9)		10000VA/9000W (PF0.9)	
INPUT	Voltage Range		110 - 276 VAC			
	Frequency Range		45-55Hz / 54-66Hz			
	Phase		Single phase with ground			
	Current THDI		<5%			
	Power Factor		≧0.99			
	Generator Input		1.5 x UPS Rating Power			
OUTPUT	Voltage Range		208VAC/220VAC/230VAC/240VAC (± 1%)			
	Phase		Single phase with ground			
	Frequency (Synchonized Range)		45-55Hz/54-66Hz			
	Frequency (Battery Mode)		50/60Hz ± 0.05Hz			
	Current Crest Ratio		3:1			
	Harmonic Distortion		<= 2% THD (Linear Load)			
	Protection		Short Circuit Protection			
	Output Waform		Pure Sinewave			
	Outlet		Terminal Block			
	Overload Capacity	Line Mode	2 min @ 105%~125% ; 30 sec @ 125% ~ 150% ; 1 sec @ > 150%			
		Battery Mode				
EFFICIENCY	AC Mode / Battery Mode		> 92% / >92 %			
	ECO mode		> 96%			
BATTERY	Number of Batteries Per Set		20	Depending on the capacity of external batteries	20	Depending on the capacity of external batteries
	Battery Capacity (Ahr)		12V/(7/9)Ahr		12V/(7/9)Ahr	
	Backup Time (depend on load)		>15 min		>15 min	
	Recharge Time (to 90%)		5 Hours		5 Hours	
	Charging Current (Max.)		1.2A	4.0A	1.2A	4.0A
	Rated Battery Voltage		240 Vdc			
	Battery Type		Sealed Lead Acid Maintenance Free			
TRANSFER TIME	AC to DC		Zero			
Parallel	N+X Parallel Redundancy		Max 4 (Load Sharing)			
INDICATOR	LCD & LED		For LED: Bypass mode,UPS on,Line mode,Battery Mode, HE mode,Battery test mode,Fault mode,Waring mode For LCD: Input/Output Voltage&Frequency, Load level,Load Watt,Battery Voltage,Battery status,Converter mode, Battery Remaining Time, UPS status, Fault indicator, etc.			
AUDIBLE ALARM	Battery Mode		Sounding every 4 seconds			
	Low Battery		Sounding every second			
	Overload		Sounding twice every second			
	Fault		Continuously Sounding			
DIMENSION	W x H x D mm		260 x 708 x 550			
WEIGHT	kg		86	34 ex.bat	92	37 ex.bat
ENVIRONMENT	Operating Environment		0-40° C			
	Relative Humidity		0-95% (NON-CONDENSING)			
	Noise Level		<50dB @ 1 Meter		<55dB @ 1 Meter	
INTERFACE	USB (built-in) / RS-232		Software supports Windows Family, Linux, Sun Solaris, IBM AIX, Compaq True64, SGI IRIX, FressBSD, HP-UX and MAC			
	Smart Slot (Option)		SNMP Adapter/ AS400 Relay Card / RS485 / USB			
INTERNATIONAL STANDARDS	CE		Safety (IEC62040-1-1), ESD (IEC61000-4-2 L4),RS (IEC61000-4-3 L3),EFT (IEC61000-4-4 L4), Surge (IEC61000-4-5 L4), Conduction (IED 62040-2 C3), Radiation (IEC62040-2 C3), Transportation (ETS300019-2-2 Class 2.3), Protection (IP20 static)			

Specification are subject to change without prior notice.

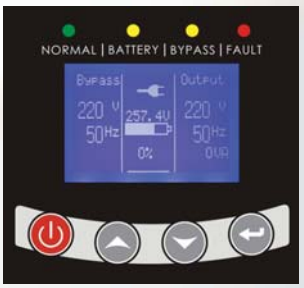
The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

Hercules Combo Series

SmartPower
Your Smart choice for UPS

HIGH PERFORMANCE
TRUE DOUBLE CONVERSION ONLINE UPS
With Dual input (3 phase or 1 phase)

Trendy & Elegant LCD & LED Design
for real-time UPS system information

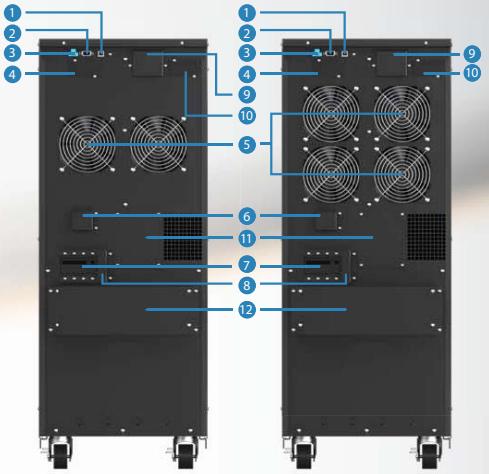


Features

- DSP Control
- 0.9 Output Power Factor
- Wide Input Range
- High Efficiency Mode (ECO)
- Frequency Converter Mode
- Input THDI < 5%
- Output THDv < 2%
- Different source for Bypass
- Dual input (3 phase or 1 phase auto detection)
- Feedback protection
- Output Voltage Regulation <1%
- N+X Parallel Redundancy
- Dot Matrix LCD Display
- Battery Remaining Time Display
- Extendable Run Time
- Fan Speed Control
- Multiple Communication Port Simultaneously
- Emergency Power Off (EPO)
- Short Circuit Clearance with current limit
- Optional SNMP & Relay Cards
- Free Power Manangement Software

Rear Panel:

1. USB Port
2. RS232 Port
3. EPO
4. AS400 Slot
5. Fan
6. Back Feed Connector
7. Input Breaker
8. Neutral Switch
9. Parallel Port (Optional)
10. Intelligent Slot
11. Maintenance Switch
12. Terminal Block
    (Input/Output/Batery)



HE-Combo10k HE-Combo20k

Hercules Combo series, built for the most reliability, purity and power

Hercules Combo Series UPS make use of the unique True Online Double Conversion circuitry to detect the electricity current and voltage output of utility power supply. The current is input via high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over to 0.99 and avoid generating comparatively significant harmonic interference on the power network.

With the use of the outstanding IGBT as the power convertion component, the operating frequency of the Inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of UPS and higher inversion frequency reduces the noise of the inverter as well. Excellent unique design for dual input utility (3 phase or 1 phase auto detection), the best for your utility choices of flexible.

Product Information

Hercules Combo Series

Parallel Redundancy N+X

MODEL		HE-Combo10k	HE-Combo20k
CAPACITY	VA/WATT	10kVA/9kW (PF0.9)	20kVA/18kW (PF0.9)
INPUT	Voltage Range	110 - 276 VAC for 1 phase input, 190-478VAC for 3 phase input	
	Frequency Range	45-55Hz / 54-66Hz	
	Phase	Three Phase with ground or Single phase with ground	
	Current THDI	<5%	
	Power Factor	≧0.99	
	Generator Input	1.5 x UPS Rating Power	
OUTPUT	Voltage Range	208VAC/220VAC/230VAC/240VAC (± 1%)	
	Phase	Single phase with ground	
	Frequency (Synchonized Range)	45-55Hz/54-66Hz	
	Frequency (Battery Mode)	50/60Hz ± 0.05Hz	
	Current Crest Ratio	3:1	
	Harmonic Distortion	<= 2% THD (Linear Load)	
	Protection	Short Circuit Protection	
	Output Waform	Pure Sinewave	
	Outlet	Terminal Block	
	Overload Capacity: Line Mode / Battery Mode	5 min @ 100%~110% ; 1 min @ 110% ~ 130% ; 10s @ 130% ~ 150% ; 2 sec @ > 150%	
EFFICIENCY	AC Mode / Battery Mode	> 93% / > 93%	
	ECO mode	> 97%	
BATTERY	Number of Batteries Per Set	24	
	Battery Capacity (Ahr)	12V/(7/9)Ahr	
	Backup Time (depend on load)	>15 min	
	Recharge Time (to 90%)	3 Hours	
	Charging Current (Max.)	2.0A, 4.0A (Expandable to 8.0A)	
	Rated Battery Voltage	288 Vdc	
	Battery Type	Sealed Lead Acid Maintenance Free	
TRANSFER TIME	AC to DC	Zero	
Parallel	N+X Parallel Redundancy	Max 4 (Load Sharing)	
INDICATOR	LCD & LED	For LED: Bypass mode,UPS on,Line mode,Battery Mode, HE mode,Battery test mode,Fault mode,Waring mode For LCD: Input/Output Voltage&Frequency, Load level,Load Watt,Battery Voltage,Battery status,Converter mode, Battery Remaining Time, UPS status, Fault indicator, etc.	
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds	
	Low Battery	Sounding every second	
	Overload	Sounding twice every second	
	Fault	Continuously Sounding	
DIMENSION	W x H x D mm	350 x 890 x 650	
WEIGHT	kg	58 ex.bat	62 ex.bat
ENVIRONMENT	Operating Environment	0-45° C	
	Relative Humidity	0-95% (NON-CONDENSING)	
	Noise Level	<55dB @ 1 Meter	
INTERFACE	USB (built-in) / RS-232	Software supports Windows Family, Linux, Sun Solaris, IBM AIX, Compaq True64, SGI IRIX, FressBSD, HP-UX and MAC	
	Smart Slot (Option)	SNMP Adapter/ AS400 Relay Card / RS485 / USB	
INTERNATIONAL STANDARDS	CE	Safety (IEC/EN62040-1-1), ESD (IEC/EN61000-4-2 L4),RS (IEC/EN61000-4-3 L3),EFT (IEC/EN61000-4-4 L4), Surge (IEC/EN61000-4-5 L4), Conduction (IEC/EN62040-2 C3), Radiation (IEC/EN62040-2 C3), Transportation (ETS300019-2-2 Class 2.3), Protection (IP20 static)	

Specification are subject to change without prior notice.

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

SmartPower
Your Smart choice for UPS

Hercules - RT Series

High Power Density Rack-Tower 2-IN-1 True Online Double Conversion UPS 1kVA-10kVA

HE-RT 1-3kVA

Features

- DSP Control
- 0.9 Output Power Factor
- Wide Input Range
- High Efficiency Mode (ECO)
- Frequency Converter Mode
- Input THDI < 5%
- Output THDv < 2%
- Output Voltage Regulation < 1%
- Auto Self-Testing System
- Extendable Run Time
- Fan Speed Control
- Different source for Bypass (for 6-10kVA)
- Output load segments shutdown setup
- Free Power Manangement Software
- Multiple Communication Port
- Optional SNMP & Relay Cards
- Temperature Compensation
- N+X Parallel Redundancy (for 6-10kVA)

HE-RT 6-10kVA

Parallel Redundancy N+X

Hercules-RT series, built for the most reliability, purity and power

Hercules Series UPS make use of the unique True Online Double Conversion circuitry to detect the electricity current and voltage output of utility power supply. The current is input via high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over to 0.99 and avoid generating comparatively significant harmonic interference on the power network.

With the use of the outstanding IGBT as the power convertion component, the operating frequency of the Inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of UPS and higher inversion frequency reduces the noise of the inverter as well.

Product Informations

Hercules RT Series

MODEL		HE-RT1k	HE-RT1kS	HE-RT2k	HE-RT2kS	HE-RT3k	HE-RT3kS	HE-RT6k	HE-RT6kS	HE-RT10k	HE-RT10kS
CAPACITY	VA/WATT	1kVA/900W (PF0.9)		2kVA/1.8kW (PF0.9)		3kVA/2.7kW (PF0.9)		6kVA/5.4kW (PF0.9)		10kVA/9kW (PF0.9)	
INPUT	Voltage Range	120 - 276 VAC									
	Frequency Range	50/60 Hz ± 10% (Auto sensing)									
	Phase	Single phase with ground									
	Current THDI	<5%									
	Power Factor	≧0.99									
	Generator Input	1.5 x UPS Rating Power									
OUTPUT	Voltage Range	208/220/230/240 VAC ± 1%									
	Phase	Single phase with ground									
	Frequency (Synchonized Range)	50/60 Hz ± 10%									
	Frequency (Battery Mode)	50/60 Hz ± 0.1%									
	Current Crest Ratio	3:1									
	Harmonic Distortion	< 2% THD (Linear Load)									
	Protection	Short Circuit Protection									
	Output Waveform	Pure Sinewave									
	Outlet with load segments	NEMA x 8						IEC + TERMINAL			
	Overload Capacity – Line Mode	12s@102%-130%; 1.5s@130%-150%;100ms@>150%						2min@102%-130%; 30s@130%-150%;100ms@>150%			
	Overload Capacity – BAT Mode							10s@102%-130%; 100ms@>130%			
EFFICIENCY	AC-AC Mode	> 88%		> 89%		> 92%		> 92%		> 93%	
	Battery Mode	> 83%		> 83%		> 86%		> 89%		> 90%	
	ECO mode	> 95%						> 96%		> 97%	
BATTERY	Number of Batteries Per Set	3	Depending on the capacity of external batteries	4	Depending on the capacity of external batteries	6	Depending on the capacity of external batteries	15	Depending on the capacity of external batteries	20	Depending on the capacity of external batteries
	Battery Capacity (Ahr)	12V/(7/9)Ahr		12V/(7/9)Ahr		12V/(7/9)Ahr		12V/(5)Ahr		12V/(7/9)Ahr	
	Backup Time (depend on load)	>15 min		>15 min		>15 min		>15 min		>15 min	
	Recharge Time (to 90%)	3 Hours		3 Hours		3 Hours		3 Hours		3 Hours	
	Charging Current (Max.)	1.5A	6.0A	1.5A	6.0A	1.5A	6.0A	1.0A	6.0A	1.7A	8.0A
	Battery Type	Sealed Leads Acid Maintenance Free									
TRANSFER TIME	AC to DC	Zero									
Parallel	N+X Parallel Redundancy	N/A						Max 2 (Load Sharing)			
INDICATOR	LCD * Not available in 1-3kVA model	Input information: Voltage / Frequency , Output information: Voltage / Frequency, Load information: *Watt / *VA / *Current / Load Level(%), Battery infomation: Voltage / Battery Level (%) UPS information: *Temperature / Bypass mode / Line mode / Battery mode /Fault / Warning / *Running Time / *Event log, etc.									
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds									
	Low Battery	Sounding every second									
	Overload	Sounding twice every second									
	Fault	Continuously Sounding									
DIMENSION	W x H x D mm	438 x 86.5 x 435 (2U)				438 x 86.5 x 605 (2U)		438 x 129 x 698 (3U)		438 x 215.5 x 704 (5U)	
WEIGHT	kg	16.2	8.4	19.7	9.3	27.8	13	46		82.5	
ENVIRONMENT	Operating Environment	0-40° C									
	Relative Humidity	0-95% (NON-CONDENSING)									
	Noise Level	<45dB @ 1 Meter				<50dB @ 1 Meter		<55dB @ 1 Meter			
INTERFACE	USB (built-in) / RS-232	Software supports Windows Family, Linux, Sun Solaris, IBM AIX, Compaq True64, SGI IRIX, FressBSD, HP-UX and MAC									
	Smart Slot (Option)	SNMP Adapter/ AS400 Relay Card / RS485 / USB									
INTERNATIONAL STANDARDS	CE	Safety (IEC/EN62040-1-1), ESD (IEC/EN61000-4-2 L4),RS (IEC/EN61000-4-3 L3),EFT (IEC/EN61000-4-4 L4), Surge (IEC/EN61000-4-5 L4), Conduction (IEC/EN62040-2 C3), Radiation (IEC/EN62040-2 C3), Transportation (ETS300019-2-2 Class 2.3), Protection (IP20 static)									

Specification are subject to change without prior notice.

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5, Bangmod,Thungkru, Bangkok 10140 THAILAND.
Tel. 02-872-9501/4 Fax.02-872-9505
WWW.THESUNPOWER.CO.TH
Email. SaleContact@thesunpower.co.th

SmartPower
Your smart choice for UPS

PYRAMID DSP

Uninterruptible Power Systems

True On-Line Double Conversion Technology
DSP Controlled IGBT Rectifier UPS
3 phase in / 3 phase out 10 to 200 kVA

TESID Innovation and Creativity Reward 2005

- IGBT Rectifier
- DSP basis numerical control
- Active Power Factor Correction (0.99)
- Active Harmonic Correction (≤ 4%)
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by Parallel Systems
- Smart Battery Charge System
- Synchronization Capability with external sources
- Static and Manual Bypass
- Optional Galvanic isolation transformer and special voltage application options
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs

ISO 14001

ISO 9001

CE

PG

SmartPower
Your smart choice for UPS

PYRAMID DSP SERIES SPECIFICATIONS

MODEL	PDSP310	PDSP315	PDSP320	PDSP330	PDSP340	PDSP360	PDSP380	PDSP3100	PDSP3120	PDSP3160	PDSP3200
Output power (kva)	10	15	20	30	40	60	80	100	120	160	200
Nominal Active Power (kW)	8	12	16	24	32	48	64	80	96	128	160
Power factor	0.8										
INPUT											
Number of phases	3Ph+N+PE										
Nominal Voltage	380V/400V/415V										
Voltage range (%100 load) (Ph-N)	(-15)% (+27)%										
Voltage range (%64 load) (Ph-N)	(-45)% (+27)%										
Voltage range (%42 load) (Ph-N)	(-64)% (+27)%										
Nominal Frequency (Hz)	50 or 60										
Frequency range for online operation	±10%										
Input Current THD	≤4%										
Input Power Factor	0.99										
OUTPUT											
Number of phases	3Ph+N+PE										
Voltage	380V/400V/415V										
Static Voltage Regulation at %100 Linear Load (online&battery mode)	<1%										
Voltage THD at rated linear load	<3%										
Crest factor	3:1										
Frequency (Hz)	50 or 60										
Free Running Frequency (Hz)	± 0.01%										
Overload	125% for 10 minutes 150% for 1 minute										
Efficiency	92%										
STATIC BYPASS LINE											
Number of phases	3Ph+N+PE										
Voltage Range for bypass operation	220V / 230V (Ph-N) ± 10%										
Frequency Range for bypass operation (Hz)	47-53 (Configurable)										
BATTERY											
Type	Seal Lead Acid Maintenance Free										
Battery Quantity (pcs)	62 (2*31)										
Battery Protection	Deep Discharge Protection with Auto Cut off										
Battery Test	Standard (Automatic and Manual)										
COMMUNICATION											
Interface (Communication Ports)	RS232 & RS422										
Dry Contact Signals	AC failure, Battery under voltage, bypass operation, output failure										
Others	EPO, Generator interface										
ENVIRONMENTAL CONDITIONS											
Storage Temperature Range (°C)	-25 to +55 (15 to 40 recomended for longer battery life time)										
Operating Temperature Range (°C)	0 to 40 (20 to 25 recomended for longer battery life time)										
Relative Humidity Range	0-95% (non-condensing)										
Maximum Altitude without derating (m)	1000										
Protection Level	IP20										
Noise Level	< 60 dB				< 65 dB		< 68 dB		< 75 dB		
Standards	EN 50091-1-1 , EN 50091-2, EN50091-3, EN55022, EN 62040-1-1, EN 62040-2, EN 62040-3 (VFI-SS-111)										
Dimensions wxdxh (cm)	40 x 78 x 107				52 x 90 x 130		67x73x153	64x98x140	77x76x168	96x87x1 88	
Weight (kg)	102	110			240	242	260	295	330	555	575
Product Certification	CE										
OPTIONS											
	Parallel kit, SNMP internal slot card or external adapter, split by-pass, remote monitoring panel, isolation transformer, battery cabinet, Netservice										

The Sun Power Co.,Ltd.
31 Soi Prachauthit 59, Yeak 5, Bangmod, Thungkru, Bangkok 10140, THAILAND.
Tel: (+66)-2-872-9501, Fax: (+66)-2-872-9505, email: SaleContact@thesunpower.co.th, WWW.THESUNPOWER.CO.TH

SmartPower

Your smart choice for UPS

Pyramid DSP Premium Series

On-Line "Double Conversion" Technology,
DSP Controlled IGBT Rectifier UPS
3phase in / 3phase out 10 to 100kVA

- High Output Power Factor : 0,9
- Graphical Touch Screen Front Display Panel
- *IGBT Rectifier*
- Real Digital Signal Processor (DSP) controlled transformerless design
- Input Power Factor Correction PFC(>0,99)
- Low Total Harmonic Distortion Level (THDi ≤ 4%)
- *High Efficiency (up to 94%)*
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by on site Modular Parallel Systems
- Intelligent battery management system extends the lifetime of batteries
- Static and Manual Bypass
- *EPO (Emergency Power Off)*
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs
- *Different voltage applications with refer to country mains characteristic*

Accessories

Communication

- Remote Monitoring Panel &25m Cable For Remote Panel
- UPSMAN (Management Software)
- Multiserver Shutdown Licence
- Internal SNMP kit :
  Internal Slot Card SNMP CS121BSC or CP504, slot box, cable
- External Adapter
  SNMP Adapter Net Agent Mini DT 522
  SNMP Adapter CS121BL

Other

- Split By-pass
- Parallel Kit
- Drawer Type Internal Battery Shelves 10 - 30kVA
- Special Battery Connection Cable for Drawer Type Shelves

Battery Cabinets

- *UPS looking battery Cabinets (different battery configuration available)*
  V14, V15, V24, V33, V34

- *Eco Cabinets (different battery configurations available)*
  BC00, BC10, BC20, BC30, BC40, BC50, BC60

The Sun Power Co.,Ltd.
31 Soi Prachauthit 59, Yeak 5, Bangmod, Thungkru, Bangkok 10140, THAILAND.
Tel: (+66)-2-872-9501, Fax: (+66)-2-872-9505, email: SaleContact@thesunpower.co.th, WWW.THESUNPOWER.CO.TH

Pyramid DSP Premium Series

MODEL	PDSP-P 33010	PDSP-P 33015	PDSP-P 33020	PDSP-P 33030	PDSP-P 33040	PDSP-P 33060	PDSP-P 33080	PDSP-P 33100
Output power (kVA)	10	15	20	30	40	60	80	100
Nominal Active Power (kW)	9	13,5	18	27	36	54	72	90
INPUT								
Number of phases	3Ph+N+PE							
Nominal Voltage (3ph Phase to Phase)	380V/400V/415V							
Voltage range	(-15)% (+27)%							
Voltage range (%64 load)	(-45)% (+27)%							
Voltage range (%42 load)	(-64)% (+27)%							
Nominal Frequency (Hz)	50 or 60							
Frequency range for online operation	±10%							
Input Current THD	≤4% (*) (**)							
Input Power Factor	0,99							
OUTPUT								
Power factor	0.9							
Number of phases	3Ph+N+PE							
Voltage (3ph Phase to Phase)	380V/400V/415V							
Static Voltage Regulation at %100 Linear Load (online&battery mode)	<1%							
Voltage THD at rated linear load	<3%							
Crest factor	3:1							
Frequency (Hz)	50 or 60							
Free Running Frequency (Hz)	± 0.01%							
Overload	125% for 10 minutes 150% for 1 minute							
Efficiency	up to 94% (**)							
BATTERY								
Type	Maintenance-free Lead Acid Batteries							
Quantity (pcs)	62 (2*31)							
Battery Protection	Deep Discharge Protection with Auto Cut off							
Battery Test	Standard (Automatic and Manual)							
DISPLAY								
3.5" Graphical Touch Screen	Graphical Flow Diagram for Line, Rectifier, Bypass, Battery, Inverter and Load Input & Output Frequency, Voltage & Current, Load Power Factor, Load%, Load Active & Apparent Power, Bypass Volt age & Frequency, Battery Voltage, Current & Temperature, Autonomy Time (min), -							
STATIC BYPASS								
Number of phases	3Ph+N+PE							
Voltage Range for bypass operation	± 10%							
Frequency Range for bypass operation (Hz)	± 6% (Configurable)							
COMMUNICATION								
Interface (Communication Ports)	RS232, RS485 (ModBus)							
Relay Contact Signals (Adjustable)	Programmable 4 Relay Contacts to any of following signals ; General Alarm, Input Failure, Battery Failure, Output Failure, Bypass Acvite, Output Overload, High Temperature							
Others	EPO, Generator Interface							
ENVIRONMENT								
Storage Temperature Range (°C)	-25 to +55 (15 to 40 recomended for longer battery life time)							
Operating Temperature Range (°C)	0 to 40 (20 to 25 recomended for longer battery life time)							
Relative Humidity Range	0-95% (non-condensing)							
Maximum Altitude without derating (m)	1000							
Protection Level	IP20							
Audible Noise Level from 1m (dBA)	50		52		55		58	60
PHYSICAL SPECIFICATIONS								
Output power (kVA)	10	15	20	30	40	60	80	100
Dimensions WxDxH (cm)	40 x 78 x 107				52 x 90 x 130	67 x 73 x 163		85 x 78 x 182
Weight (kg)	100	114	116	122	180	253	285	405
STANDARDS								
Standards	EN 62040-1-1 (Safety), EN 62040-2 (EMC), EN 62040-3 (VFI-SS-111)							

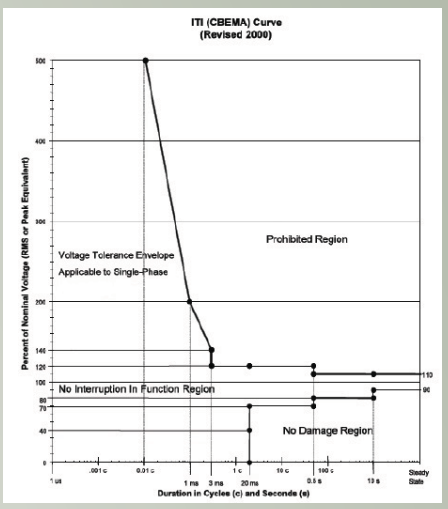
(*) for source having THDv < 2 % @ nominal load
(**) varies depending on ups power

Source Transfer Switch
STS 220 series

SmartPower Source Transfer Switch (STS), also known as the Redundant switch or Automatic Transfer Switch (ATS) or Static Transfer Switch (STS), is a high availability switch that has two input power sources for each AC line, which provide a redundancy electrical power for equipment. The power source of STS can be from the same or different source of transformers. The STS is designed to supply an electric power for equipments from a primary source and once the primary source is outage, then the STS will automatically transfer an output power supply to the secondary source. The transfer time during the power source transfered is limited at 8-12 ms, which is lower than the standard for the safty range, the power source switching is seamlessly to IT equipment. Per the ITI Curve, typical power supplies will operate 20ms after AC voltage drops to zero, and the switching occurs safely between the two input sources regardless of any phase differences. The STS unit have provided network connectivity (as optional), which allows for remote management through Web, SNMP or Telnet interfaces.

Robust & Reliability out-of-phase switching

SmartPower STS is designed to provide redundancy as close as possible to the equipment, The STS deploys a "Break Before Make" technology based on relays to prevent relay welding and also double protection from any incident eror with glas tube fuses, so there is no cross-connection of sources, regardless of the phase between sources. In an event of a short-circuit, the STS ensures that the fault could not affect an alternative source, therefore you can ensure to have a fault-free power source.



Features:

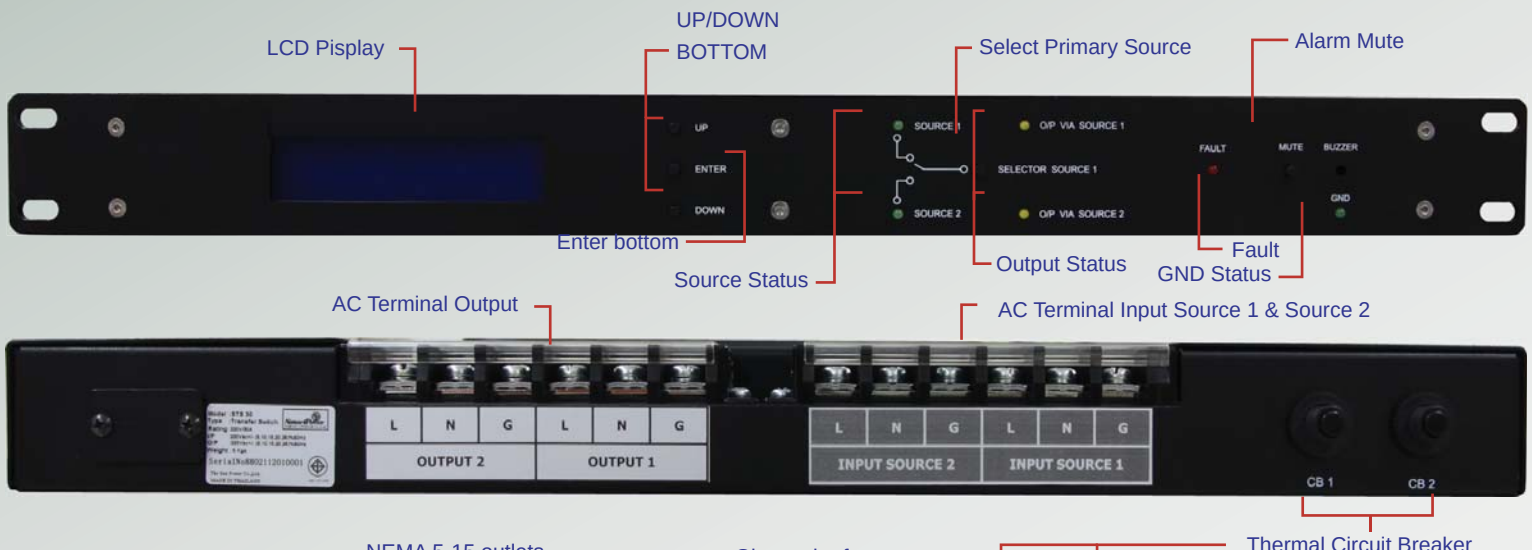
- Seamless power transfer to IT equipment per the ITI Curve.
- User friendly with LCD & LED display with buzzer alarm.
- True RMS Voltage, Load Current and Watt display.
- Input & Output LED status & fault indicator.
- Automatic transfer to the secondary source while the primary source power outage.
- Power source transferable by manually are available.
- Event log with real time clock stamp.
- Audible alarm & fault indicator during Phase fault detection, Sources voltage abnormal.
- Audible alarm during transfer to backup source.
- Primary source selectable.
- User friendly setup via LCD panel or SNMP web interface;
  - +Setup an input voltage range: +/- 5,10,15,20,25%
  - +Setup Automatic recovery or Manually transfer while primary source recover to normal.
  - +Setup Automatic recovery time delay: 5,15,30,45,60 seconds after primary source recover to normal
  - +Setup System Time
- Input source cross-connection protection by "Break Before Make" and from any incident error with glass tube fuses.
- Short circuit protection with thermal circuit breaker.
- Slim size designed, only 1U for rack 19"

THE SUN POWER
Your partner for power solution

Source Transfer Switch
STS 220 series
Technical specifications

Model	STS 16	STS 30
Rating Current	16 Amp	30 Amp
Input Voltage Range	220VAC (+/- 5,10,15,20,25% selectable) 50 Hz. 1 Phase with Ground	
Auto Recovery Time	5,15,30,45 or 60 seconds selectable	
Protection	Thermal circuit breaker for short circuit protection	
	Input source cross-connection protection with break before make and glass tube fuse	
Transfer Time	Typical 8-12 ms. (*Less transfer time to be requested as optional)	
Input/Output Plug Type	NEMA 5-15 or IEC C13/C19 or Terminal block or Power plug receptacle 2P+E	
Indicator	LCD & LED indicator: True RMS voltage, Current and Watt display, Fault error,	
	Input & Output power status, Event log, Utility Source available, etc.	
Audible Alarm	Over load, Transfer to backup source, Input phase fault, Communication fault	
Management	SNMP card (option)	
Complied Standard	ISO9001, EN50091-1,EN50022/B, IEC1000-4	
Dimension WxDxH	430x250x45 mm	
Weight	3 kg.	3.1 kg.

Specification are subject to change without prior notice.



Input/Output Power Plug Receptacle 2P+E
STS 16: Power Cord Length 5m 16A
STS 30: Power Cord Length 5m 32A

The Sun Power Co.,Ltd.
31 Soi Prachautit 59, Yeak 5 Tel. 02-872-9501/4 Fax.02-872-9505
Bangmod,Thungkru, WWW.THESUNPOWER.CO.TH
Bangkok 10140 THAILAND. Email. SaleContact@thesunpower.co.th