



Current Automation
POWER SOLUTION PROVIDERS



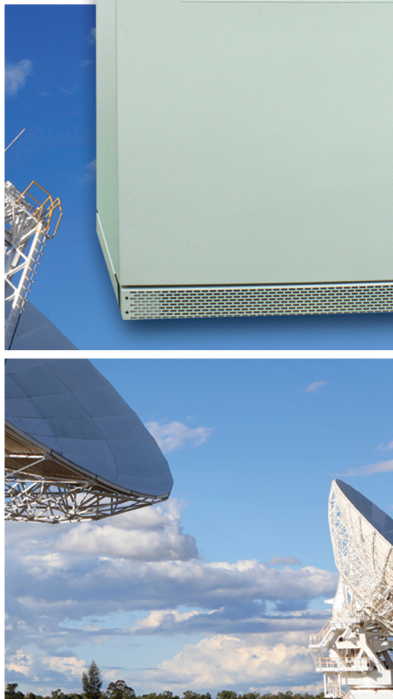
DELTA

Power without compromise

www.rectifier.co.za



DELTA
*Three Phase
UPS
Catalogue*



**20~4000
KVA**



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NH & NH+ Series (Modular)

(Uninterruptible Power Supply 20~120KVA)



Applications

- Data/Call Center
- Telecommunications
- Medical
- Security
- Semiconductor
- Chemical
- Industrial

Features

- True On-line Double conversion technology.
- Power Rating:NH Series 20/40/60/80 KVA. (Up to 4 units)
- Power Rating:NH+ Series 20/40/60/80/100/120 KVA.(Up to 6 units)
- N+X parallel redundancy to increase reliability and flexibility. (Maximum Output power 480KVA)
- High input power factor (pf > 0.99) and low harmonic distortion (THD < 5%).
- Savings in installation cost and reductions in pollution feedback into the upstream power system.
- Overall high efficiency (> 94%) over 30%~100% load @ AC mode for wild application requirement, thus a saving on operating costs.
- Wide input voltage range (-25%~20%) extending battery life-time by reducing battery discharge probability.
- Easy parallel link without extra hardware needed to be able to expand system capacity.
- Built-in manual and static bypass switch for maintenance.
- Built-in SRAM, recording maximum 500 real-time event logs.
- Redundant auxiliary power and static switch control circuit. Double insurance of the performing reliability.
- Scheduled battery test and battery replacement warning.
- Local and remote emergency power off function (LEPO and REPO).
- Dual input - Separated rectifier and bypass input
- Compatible with generator installation.
- Double conversion and IGBT technology.
- User-friendly LCD display and mimic status LED indicators.
- Extended battery cabinet is available to get the desired backup time



Model			NH20	NH40	NH60	NH80	NH100	NH120	
Power Rating - kVA			20	40	60	80	100	120	
Power Rating - kW			16	32	48	64	80	96	
Input	Rating Voltage		VAC	380/220, 400/230, 415/240 (3 Phase, 4-wire plus ground)					
	AC Voltage Range		VAC	208~477 / 120~276 ** (380/220 rating)					
	DC Input Range		VDC	40 x 12Vdc (-240Vdc and +240Vdc)					
	Input Current Harmonic Distortion		%	<3 (full load)					
	Power Factor			>0.99					
	Frequency		Hz	50 or 60 ±5Hz					
Output	Voltage		V	380/220, 400/230, 415/240 (3 Phase, 4-wire plus ground)					
	Voltage Harmonic		%	≤ 3 (Linear load)					
	Voltage regulation	Static	%	±1					
		Dynamic	%	±7 (10% ~90% linear load)					
	Frequency		Hz	50 or 60					
	Frequency Regulation			Hz	±0.05 (interior oscillator)				
				Hz	±5 (Synchronized)				
Overload			Hz	≤ 125% : 10minutes ; ≤ 150% : 1minute; >150%: 0.5 seconds					
Overall	Effieciency	Normal	%	94					
		Eco	%	97					
	Transfer Time		ms	0					
	Temperature		℃	0~40					
	Dimension (WxDxH)		mm	NH Series: 520(W)x850(W)x1165(H) (UPS and battery cabinet are the same) NH+ Series: 520(W) x 910(D) x 1165(H) & NH+ Series: 520(W) x 975(D) x 1695(H) - NH100 /NH120					
	Weight		kg	125	175	210	244		
Interface	Standard			RS232 x 1, Smart Slot x 2, Dry contact output x 6, Contact input x 2, Parallel port x 1, Battery cabinet temperature x 4					
	Optional Accessories			SNMP card, Modbus card, Relay I/O control card, Environmental monitoring box, SNMP+5 ports hub, Battery cabinet temperature sensor, Battery cabinet temperature kit (For Delta cabinet). Battery cabinet status cable					

Please refer to www.rectifier.co.za for detailed specifications.

Features

- Power Rating: 10~500 KVA. Double conversion and IGBT technology.
- N+X parallel redundancy (**Up to 8 units**) increasing reliability. (Maximum Output power 4000KVA)
- Easy parallel link without extra hardware needed to expand the system capacity.
- Economic mode for energy and operation cost savings.
- Built-in SRAM, recording maximum 500 real-time event logs.
- Redundant auxiliary power and control circuit to guarantee the reliability.
- Smart battery management to ensure high availability.
- Intelligent multi-speed cooling fan control.
- Local and remote emergency power off function.
- **Compatible with generator installation and unbalanced loads.**
- User-friendly LCD display and mimic status LED indicators.
- RS232/RS485/SNMP connectivity with Vista compatible power management software.
- Optional 12-pulse rectifier or filter for lower harmonic distortion.

Reductions in pollution feedback into the upstream power system.

- Possibility for shared battery source enabling cost savings.
- Extended battery cabinet is available to increase to the desired backup time required.



Model				NT 20	NT 30	NT 40	NT 50	NT 60	NT 80	NT 100	NT 120	NT 160	NT 200	NT 260	NT 320	NT 400	NT 500
Power Rating - kVA				20	30	40	50	60	80	100	120	160	200	260	320	400	500
Power Rating - kW				16	24	32	40	48	64	80	96	128	160	208	256	320	400
Input	Rating Voltage		VAC	380/220, 400/230, 415/240, 480/277, 208/120 (3 Phase, 4-wire plus ground)													
	AC Voltage Range		VAC	±20													
	DC Input Range		VDC	29 x 12Vdc (348Vdc)													
	Input Current Harmonic Distortion		%	<3 (with optional rectifier or filter, full load)													
	Frequency		Hz	50 or 60 ±5Hz													
Output	Voltage		V	380/220, 400/230, 415/240, 480/277, 208/120 (3 Phase, 4-wire plus ground)													
	Voltage Harmonic		%	≤ 3 (Linear load)													
	Voltage regulation	Static	%	±1													
		Dynamic	%	±5													
	Frequency		Hz	50 or 60													
	Frequency Regulation		Hz	±0.01 (interior oscillator)													
			Hz	±1 (Synchronized)													
	Overload		Hz	≤ 110% : 60minutes; 110~125%: 10 minutes; 126~150% : 1minute													
Overall	Efficiency	Economic	%	>97													
		Normal	%	90	91	91	91.5	91.5	92	92	92.5			93			
	Transfer Time		ms	0													
	Temperature		°C	0~40													
	Relative Humidity		%	90 (non-condensing)													
	Dimension (WxDxH)	Width	mm	600						800		1200		1600		1900	
		Depth	mm	800						830		830		995		995	
		Height	mm	1400						1700		1700		1950		1950	
Weight (Rating 380/220Vac)		kg	365	365	425	460	506	525	700	745	1050	1085	1680	1720	1920	2400	
Inter-face	Standard			RS232 x 1, RS485 x 1, SNMP Slot x 1, Status dry contact output x 6													
	Optional Accessories			SNMP card, Modbus card, Relay I/O control card, Environmental monitoring box, SNMP+5 ports hub, Remote panel													

H Series

(Uninterruptible Power Supply 15~30KVA)



Features

- Power rating: 15 / 20 / 30KVA. Double conversion technology.
- Wide input voltage range (156~280Vac) extending battery life-time by reducing battery discharge probability.
- High input power factor (pf > 0.95). Saving on the installation costs.
- Economic mode for energy and operation cost savings.
- Hot-standby installation is feasible to increase reliability.
- Battery-start capability without utility power.(Cold-start capability)
- Smart slot for mission critical applications.
- User-friendly LCD display and status LED indicator.
- RS232/AS400 connectivity with Vista compatible power management software.
- Built-in manual bypass switch for maintenance.
- Local and remote emergency power off function.
- Extended battery cabinet is available to get the desired backup time.



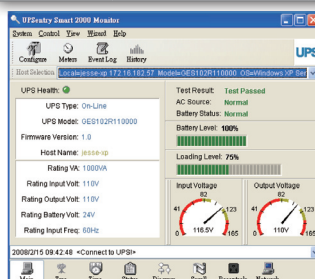
Applications

- Computer Room
- Networking
- Banking
- Medical
- Security

Advanced Product Design

- High tech transformer-less design for smallest sizes.
- Optional galvanic isolation transformer inside (Up to 20KVA).
- Dual input for Hot-standby configuration for higher reliability setup.
- Optional 5A external charger board available for long backup recharging.

Model			GES153H 3/1	GES153H 3/3	GES203H 3/1	GES203H 3/3	GES303H 3/3
Power Rating - kVA			15		20		30
Power Rating - kW			12		16		24
Input	Rating Voltage		VAC	220/380, 230/400, 240/415 (3 Phase, 4-wire plus ground)			
	AC Voltage Range		VAC	156~280 / 270~485			
	DC Input Range		VDC	20 x 12Vdc (240Vdc)			
	Power Factor			>0.95			
	Frequency		Hz	50 or 60 ±5Hz			
Output	Voltage		VAC	3/3 model:220/380, 230/400, 240/415 (3 phase, 4-wire plus ground) 3/1 model: 220/230/240 (single phase)			
	Battery charging		VDC	Built-in 2.6A; Optional external extra charger: 5 Amps		Built-in 5A; Optional external extra charger: 5 Amps	
	Voltage Harmonic		%	≤ 3 (Linear load)			
	Voltage regulation		%	±2			
	Frequency		Hz	50 or 60			
	Frequency Regulation		Hz	±0.1			
	Overload		Hz	≤ 102% Continuous; 102~125%: 1 minute; 125~150%: 0.5 minute; >150%: 2 seconds.			
	Overall	Effieciency	Normal (AC-AC)	%	Without isolation transformer: 90 (Full load) With isolation transformer: 87 (full load)		
Economic			%	Without isolation transformer: 97 (Full load) With isolation transformer: 95 (full load)			
Transfer Time		ms	0				
Temperature		°C	0~40				
Relative Humidity		%	5~95% (non-condensing)				
Noise (one meter)		dBA	< 60				
Dimension (WxDxH)		mm	380x650x860 (UPS and battery cabinet are the same)				
Weight		W/out Isolation TR	kg	108			
		With Isolation TR	kg	210		220	
Interface	Standard			RS232 x 1, SNMP slot x 1, AS400 x 1, Dry contact x 1			
	Optional Accessories			SNMP card, Modbus card, Relay I/O control card, Environmental monitoring box, SNMP+5 ports hub			



Power Management Software for all the UPS models. (UPSentry Smart 2000) with the following supported compatible OS

- Microsoft (9x/2000/2003/XP/Vista)
- Linux (Redhat, Open Linux, SUSE)
- FreeBSD
- Sun (Solaris Sparc, Solaris 86)
- HP (HP-UX)
- IBM (AIX)
- Apple (MacOSX)
- SCO (OpenServer)

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