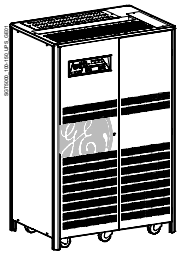
GE
Critical Power



Technical Data Sheet SG Series (100-150kVA)

GENERAL DATA					
Topology			True On-line double conversion		
Nominal output power at PF = 0.7 lag. to 0.8 lag.			kVA	100	120	150
System efficiency	100% load, 0.8 PF :		%	92.4	92.7	92.8
	50% load, 0.8 PF :		%	92.9	93.1	93.3
Heat rejection at 100% load, 0.8PF and charged battery			BTU/hr	22,472	25,819	31,795
			kW	6.58	7.56	9.31
Cooling Air (77°F - 86°F / 25°C - 30°C)			CFM	996	1,145	1,410
Audible noise level (at 5 ft.)			dB(A)	65	65	65
Operating temperature range		UPS :	**32°F - 104°F (0°C - 40°C)**			
		Battery :	**68°F - 77°F (20°C - 25°C)**			
			(Note: Higher temperatures shorten battery life)			
Storage temperature range		UPS :	**5°F - 122°F (-15°C to +50°C)**			
		Battery :	**32°F - 104°F (0°C - 40°C)**			
		(VRLA)	**Storage time is 6 months at 77°F (25°C)**			
			(Note : Higher temperatures reduce battery storage time)			
Relative humidity			**0-95%, non-condensing**			
Maximum altitude		Without derating :	**3281ft (no derating)**			
		With derating :	**4921ft/-5% 6562ft/-9% 8202ft/-14% 9843ft/-18%**			
Enclosure		Type :	**Indoor (IP20) and NEMA PE 1**			
		Safety :	**Internal dead front construction**			
		Cooling :	**Forced Air (Redundant Fans)**			
		Color :	**Black (RAL 9005)**			
Installation		Rigging :	**Suitable for handling by forklift**			
		Mounting :	**Floor mounting holes provided**			
		Installation and maintenance access :	**Front access required for normal maintenance**			
		Conduit Access :	**Top and Bottom standard**			
Standards			**UL 1778, IEC 62040, ISO9001, FCC Class A Optional**			
Electrostatic discharge immunity			**4kV contact / 8kV air discharge**			
Configuration		Standard :	**Stand-alone**			
		Optional :	**RPA™ - up to 8 units may be paralleled in any combination for redundancy or capacity**			

RECTIFIER		
Configuration		**Six thyristor, three phase bridge**
Input	Voltage :	**480VAC, 3-phase, 3 wire + ground (NOTE 1) (-20% to +15% without battery discharge)**
	Frequency :	**60Hz, +/-10% (54-66Hz)**
	Power factor :	**0.8 lagging (typical)**
	Inrush current :	**Limited by soft-start circuit**
	Power walk-in :	**30 seconds (Adjustable)**
	Output Voltage Tolerance :	**+/- 1%**
	DC ripple voltage :	**+/- 1%**
	DC ripple current :	**Max. 5% of battery capacity expressed in amps**

Data	SG Series (kVA)		100	120	150
	Nominal input (100% load)	Current[A] :	130.2	155.8	194.5
	(0.8 PF load, fully chrg'd bat.)	kVA :	108.2	129.5	161.6
		kW :	86.6	103.6	129.3
	Maximum input (100% load)	Current[A] :	150.4	185.3	220.2
	(0.8 PF load, max. chrg current)	kVA :	125.0	154.0	183.0
		kW :	96.0	119.0	147.0
	Max. charge current	0.8 PF load :	30	35	40

NOTE 1: The Bypass input must be 480V/277V, 3-Phase, 4-Wire, WYE, plus ground, fed from a grounded-WYE electrical system.

GE
Critical Power

Battery	
Battery compatibility	**Lead-acid or NiCd, VRLA or flooded**
Number of cells	**240 (lead-acid)**
Float voltage at 68°F (20°C)	**540VDC**
Minimum discharge voltage	**396VDC (adjustable)**
Recharge time for 30 minute battery	**10 times the discharge time**
Battery ground fault detection	**Standard**
Automatic and manual battery test	**Standard**

Data	SG Series (kVA)		100	120	150
	100% load, 0.8 PF lag.	kWB :	84.7	101.7	127.8
	Maximum Discharge Current	[A]:	218	261	325

Inverter		
Nominal output voltage		**480VAC, 3-phase, 4 wire + ground (NOTE 1)**
Inverter bridge		**IGBT technology and Space Vector Modulation**
Output Isolation transformer		**Standard**
Output waveform		**True sine wave**
Output voltage tolerance	Static:	**+/- 1%**
	Load step 0% - 100% - 0% :	**+/- 3%, recovering to within +/- 1% in 1 cycle**
	Load step 0% - 50% - 0% :	**+/-2%, recovering to within +/- 1% in 1 cycle**
	100% unbalanced load (Ph-N) :	**+/- 3%**
Output voltage distortion	100% linear load :	**2% THD maximum**
	100% non-linear load (per IEC 62040) :	**3% THD maximum**
Crest factor capability		**Greater than 3:1**
Output neutral rating		**200%**
Phase displacement	100% balanced load :	**120°+/- 1%**
	100% unbalanced load :	**120°+/- 2%**
Output frequency	Free running :	**60Hz, +/- 0.01%**
	Synchronized with utility :	**+/- 4% (adjustable from 57.6Hz to 62.4Hz)**
Overload capability (on inverter)		**125% at 0.8 PF for 10 minutes** **150% at 0.8 PF for 60 seconds**
Short circuit capability (on inverter)		**700% of rated current for first 1.2 ms, followed by** **220% for 100 ms, electronically limited**

Data	SG Series (kVA)	100	120	150
	Maximum Output Current @ 0.8pf [A]	120.3	144.4	180.5

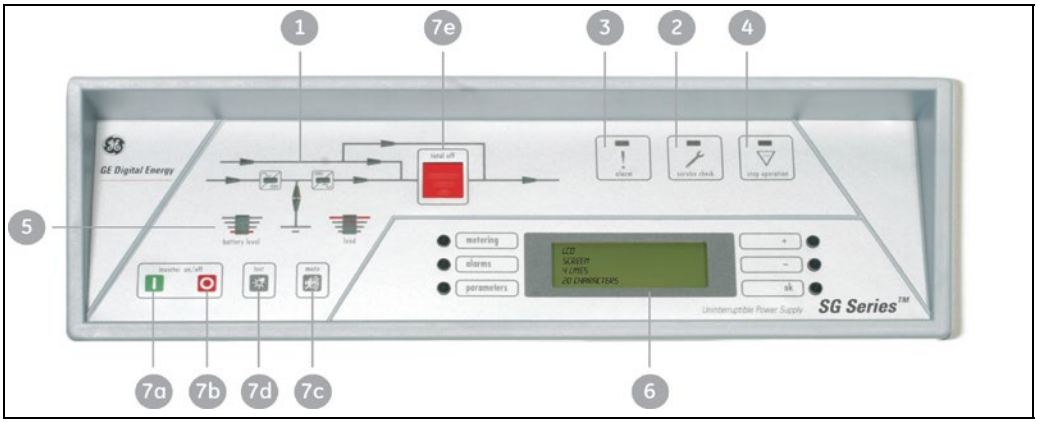
Bypass	
Input configuration	**Common with rectifier (default) or dual input**
Primary components	**Full load rated static switch** **Back feed protection** **Internal maintenance bypass**
Transfer limits	**+/- 10% of nominal output voltage (adjustable)**
Overload capability (on bypass)	**110% continuous** **200% for 5 minutes**
Short circuit capability (on bypass)	**1000% for 1/2 cycle (non-repetitive)**

External Interface		
Alarm contacts (voltage-free)	Standard :	**6 user defined contacts (form 'C')**
	Optional :	**12 user defined contacts (form 'C')** **(23 selectable signals include aux. Inputs 1 & 2)**
Serial communication		**RS-232**
Input signals		**Emergency Power Off (user supplied N.C. contact)** **Aux. input 1 * (default = On Generator)** **Aux. input 2 * (default = not defined)** *** Status displayed on LCD panel**

NOTE 1: The Bypass input must be 480V/277V, 3-Phase, 4-Wire, WYE, plus ground, fed from a grounded-WYE electrical system.

GE
Critical Power

Front Panel Controls, Signals & Alarms



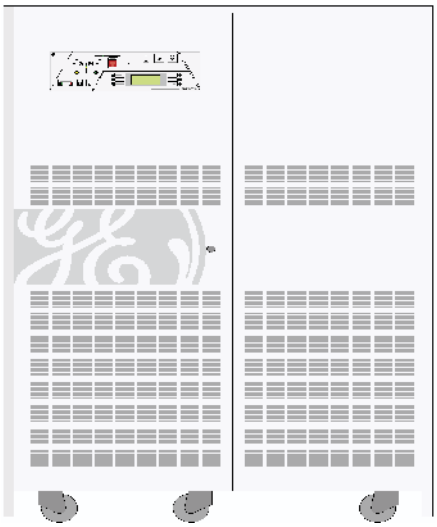
(1) Mimic Diagram:	Represents the operational status of the UPS, with integrated LEDs and power flow indicators
(2) Service Check LED:	Turns on when service is due or the internal manual bypass is active
(3) Common Alarm:	Visual (LED) and audible signal active when any alarm condition is present
(4) Stop Operation:	Visual (LED) and audible signal, activates approx. 3 minutes (adjustable) before complete and automatic load shutdown (due to a fully discharged battery or an over temperature condition with normal power not available)
(5) Load Level / Battery Run Time:	Bar graph status indicator
(6) LCD Display:	Display of UPS metering functions and event history (multi-language)
(7) Push Buttons:	(7a) - Inverter On (7b) - Inverter Off (7c) - Alarm Silence (7d) - Lamp Test (7e) - Load Off with (protective cover)

Optional Features

RPA™	- Redundant Parallel Operation and Intellegent Energy Management (IEM)
Input/Output Transformers	- Available in external cabinets for isolation or voltage transformation
5th Harmonic Input Filter	- Integral to UPS cabinet. No additional cabinet required
External Maintenance Bypass	- Available in 2 or 3 breaker, panel mounted configurations
Remote Status Panel	- Active mimic diagram w/ Stop Operation and Summary Alarms
Protection Software	- PC operated remote monitoring, control and diagnostics
SNMP Communication	- Ethernet interface for network connection
FCC Filter	- Brings UPS into compliance with FCC, Class A Specifications

GE
Critical Power

Mechanical Data

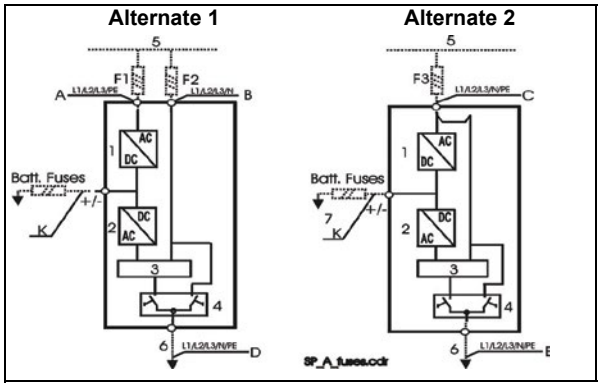


100,120,150kVA Enclosure

UPS Rating (kVA)	Dimensions			Weight	
	Height (H)	Width (W)	Depth (D)	UPS	Floor Loading
100	71"	47"	32"	1,929 lbs	185 lbs/sq.ft
120	71"	47"	32"	2,006 lbs	192 lbs/sq.ft
150	71"	47"	32"	2,160 lbs	207 lbs/sq.ft

UPS Block Diagram

1.....Rectifier
2.....Inverter
3..... Static Bypass
4.....Maintenance Bypass
5.....Utility
6.....Load Output
7..... Battery
8.....Battery Contactor
FB.....Battery Fuses or Circuit Breaker
F in.....AC Input Fuses or Circuit Breaker
Lb..... Battery Line
L in.....Input Line
L out....Output Line



GE
Critical Power
601 Shiloh Road
Plano, TX 75074
+1 877 546 3243
www.gecriticalpower.com

GEA-D2031, Rev. 07/2015