

GE Digital Energy Power Quality

Introduction

The GE Digital Energy™ 750kVA SG Series is one of the most efficient and reliable double conversion UPS systems for large data center and mission critical applications. The 750kVA is an extension of the proven SG Series product line and was developed using GE's **Design for Six Sigma** methodology to ensure the product meets customer requirements and expectations. **GE's Global Power Quality Services** team provides world-class, 7x24 emergency service, preventive maintenance, training and application expertise.

Customer Benefits

- > **Energy Savings** – maximum efficiency greater than 94%
- > **Installed Savings** – smaller footprint and lower weight than many competitive models
- > **Reduced Equipment Requirements** – eliminate centralized static bypass cabinet
- > **High Reliability** – high MTBF and no single point of failure
- > **Superior Output Performance** – lowest output voltage distortion and fastest transient response

RPA™ Paralleling System

- > Parallel up to Eight (8) 750kVA Modules
- > No Single Point of Failure
- > Redundant Static Bypass for N+1 Configurations
- > Redundant Control and Communications
- > Scalable and Modular

750kVA Digital Energy™ SG Series Uninterruptible Power Supply (UPS)

Complete System Offering

- > UPS Modules
- > Energy Storage (VRLA Battery, Wet Cell Battery or Flywheel)
- > RPA™ Output Switchgear
- > System Testing
- > Remote Monitoring
- > Preventive Maintenance Service Contracts

Features

- > **Energy Efficient** – eliminated input isolation transformer and optimized design for improved part load efficiency
- > **Low Input THD** – achieve <5% input THD with 6-pulse rectifier, eliminating input isolation transformer, increasing efficiency, reducing installed cost and weight
- > **Extremely low output voltage distortion** and faster transient response for non-linear and 100% step loads
- > **Redundant Parallel Architecture™ (RPA™)** increases system reliability by eliminating single points of failure
- > **SVM (Space Vector Modulation)**, an advanced PWM (Pulse Width Modulation) digital control technique, to modulate the inverter, resulting in fast transient response with high efficiency
- > **Intelligent Energy Management™ (IEM™)** automatically determines the most efficient mode of operation for the RPA™ system, reducing overall operating costs
- > **Zig zag output transformer** for inverter isolation providing improved output performance
- > Designed for serviceability with **front service access** and open architecture to reduce maintenance and repair costs
- > **Remote monitoring and diagnostics** via LAN or internet
- > **SNMP card**: This optional plug-in card allows the UPS to be managed using an existing Network Management System or with Digital Energy™ exclusive UPS non-proprietary service software open architecture



Options

> Rectifier Configuration

- 6-pulse rectifier w/5th Filter (<7% THD)
- 6-pulse rectifier w/5th & 11th Filter (<5% THD)
- 12-pulse rectifier w/o Filter (<9% THD)
- 12-pulse rectifier w/11th Filter (<4% THD)

Note: Input transformer included for 12-pulse rectifier configuration

- > Additional **input/output isolation and voltage adaptation** transformers available for various voltages

- > **External (full wrap around) Maintenance Bypass;** available in two or three breaker, panel mounted configurations; Kirk® key protection available

- > **Output Switchgear** – Custom output switchgear configurations for paralleling two (2) to eight (8) UPS modules in RPA™ system configurations

- > **Batteries** – VRLA or Wet cell batteries

- > **Remote Status Panel:** Allows the UPS to be remotely monitored

- > **RPA™ Card:** Any single UPS can be easily field-configured for Redundant Parallel Architecture™

- > UPS monitoring and management **software**

- > **Three Wire Kit** – input conversion kit to allow operation from 3-wire grounded WYE (no neutral)

Technical Specifications – UL approved		Rectifier Configuration			
		6-pulse (5 th Filter)	6-pulse (5 th & 11 th Filter)	12-pulse (w/o Filter)	12-pulse (11 th Filter)
Power Rating	Output Capacity	750kVA / 675kW			
Power Factor	Output Power Factor	0.9			
Energy	Energy Efficiency				
	– 50% Load	94.2%	94.1%	92.1%	92.0%
	– 100% Load	93.5%	93.4%	91.8%	91.7%
	Heat Rejection (btu/hr)	161,435	162,897	207,100	208,634
Physical	Weight w/o batteries (lbs / kg)	9,557 / 4,335	9,696 / 4,398	11,091 / 5,031	11,230 / 5,094
	Dimensions (W x D x H) inches (mm)	146.5 x 35.4 x 76.7 (3,720 x 900 x 1,950) inverter & rectifier cabinets			
Input	Input Voltage	480 V, 3-phase, 4-wire w/ground (3-wire available)			
	Voltage Range	-15% to +10% (w/o battery discharge)			
	Frequency	60 Hz +/- 5%			
	Input THD	< 7%	< 5%	< 9%	< 4%
	Input Power Factor	0.93 lagging	0.96 lagging	0.82 lagging	0.86 lagging
Output	Output Voltage	480 V, 3-phase, 4-wire w/ground			
	Frequency	60 Hz +/- 0.01% free running — 60 Hz +/- 4% synchronized with utility			
	Crest Factor	3:1			
	Voltage Regulation				
	– Static	+/- 1%			
	– 100% Step Load	+/- 3%			
	Voltage Distortion				
	– 100% Linear Load	2% THD maximum			
	– 100% Non-Linear Load	3% THD maximum			
	Overload Capability				
– Inverter	125% for 10 minutes; 150% for 30 seconds				
– Bypass	110% continuous; 200% for 5 minutes				
Battery	Compatibility	VRLA or Wet cell			
	Float Voltage	545 VDC @ 68° F (20° C)			
	Recharge Time	10x discharge time (for battery runtime = 30 minutes)			
General	Audible Noise	75 db(A) at 5 feet			
	Operating Temperature	UPS: 32° to 104° F (0° - 40° C); Battery: 68° to 77° F (20° - 25° C)			
	Humidity	0-95%; non-condensing			
	Safety Classifications & Listings	UL 1778 / IEC62040 / ISO 9001			
	Enclosure	IP20 and NEMA-PE-1			
	Communication / Connectivity	RS-232; programmable alarm contacts; programmable relays; SNMP (optional)			
	Color	White (RAL 9003)			
	Warranty	12 months from start-up			

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