

GE Digital Energy Power Quality

Introduction

The GE Digital Energy™ SG Series is one of the best performing and most reliable three-phase UPS systems, providing critical power protection for a wide range of applications. Every SG Series system operates in double conversion mode with true on-line VFI (voltage and frequency independent) operation, yielding the maximum levels of power reliability for all mission critical processes. The Digital Energy™ SG Series was developed using GE's **Design for Six Sigma** methodology to ensure that the product fully meets customer requirements and expectations.

GE's unique Redundant Parallel Architecture™ (RPA™) allows up to eight (8) units to be paralleled for redundancy or capacity. This flexible and cost-effective design controls the UPS system in a true peer-to-peer configuration, with redundancy in all critical elements and functions. This advanced technology provides the highest possible system reliability for mission critical applications, eliminating single points of failure associated with other types of UPS systems. The RPA™ system employs voltage-based sharing and precision phase control, resulting in the most accurate load sharing in the industry.

Every GE UPS system is fully supported by **GE's Global Services** team, providing world-class, 7x24 preventive and corrective services, training and application expertise.

Features and Benefits

- > **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
- > **Energy efficient** output across the load range, with best in class part load efficiency
- > **Superior Battery Management (SBM)** enhances battery life and reduces cost of operation
- > **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
- > **Integrated internal manual maintenance bypass** reducing the need for external equipment
- > **Automatic start-up** procedure and a user-friendly interface simplifies UPS operation
- > **Remote monitoring and diagnostics** via LAN or internet

400-500kVA Digital Energy™ SG Series Uninterruptible Power Supply (UPS)



Options

- > **Input 5th harmonic filter** reduces the input distortion (input THD) to 7%. This option is internal to the UPS and no additional cabinet is required.
- > **11th harmonic filter** to further reduce the input distortion (input THD) to 5%. This option is internal to the UPS and no additional cabinet is required.
- > Additional **input/output isolation and voltage adaptation** transformers available for all kVA sizes and voltages
- > **External (full wrap around) Maintenance Bypass**; available in two or three breaker, panel mounted configurations; Kirk® key protection also available
- > **Remote Status Panel**: Allows the UPS to be remotely monitored with a UPS panel, incorporating indicator lights and alarms
- > **RPA™ Kit**: Any single UPS can be easily field-configured for Redundant Parallel Architecture™
- > **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 management software
- > UPS monitoring and management **software**
- > **Three wire** input conversion kit
- > **Additional battery systems** for extended backup times

Topology Technology Operating Modes	True on-line, double conversion (VFI) with integral static switch and internal maintenance bypass Advanced IGBT with SVM strategy, microprocessor controlled at optimal switching frequency True on-line double conversion, automatic bypass, frequency converter, RPA™ up to eight (8) units	
Output Power Rating kVA	400	500
Output Power Factor	.8	.9
Output Power Rating (kW)	320	450
Dimensions W x D x H (inches)	81 x 33 x 77	81 x 33 x 77
Weight w/o Batteries (lbs.)	4600	5100
Noise Level dB(A)	65	65
Input Voltage (VAC)	480V, 3 Phase, 4 Wire w/ground (grounded WYE)	
Input Voltage Range	-20% to +15% (without battery discharge)	
Input Frequency	60Hz +/-10%	
Input Power Factor	.8 PF (.93 with input filter)	
Output Voltage (sinusoidal) (VAC)	480V, 3 Phase, 4 Wire w/ground	
Output Frequency	60Hz +/-10%	
Output THD at Linear Load	<2%	
Output THD at Non-Linear Load	<3%	
Crest Factor	3:1	
Overload Capability on Inverter	125% @ 10 min., 150% @ 30 seconds	
Overload Capability on Automatic Bypass	200% @ 5 min., 110% continuously	
Output Voltage Regulation		
• Static	+/- 1%	
• 0-100% Step Load	+/- 3%	
System Efficiency (without filters)		
• 100% Load	94.0	93.8
• 50% Load	94.2	94.4
Ambient Operating Temp.	32°-104°F (0°-40°C)	
Color	RAL 9003 (white)	
Classifications and Listing	UL 1778 / IP20 / NEMA PE 1 / ISO9001	
RFI and Surge Protection	EN 50091-2 / IEC 62040-2 / IEEE 587 B / FCC Class A compliance*	
Standard Connectivity	RS-232; programmable alarm contacts; programmable relays; SNMP (optional)	
Warranty	12 months**	

Specifications subject to change without notice.

*FCC Feature available as option (10-300kVA).

** Extended Warranties available



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