E4502FJ Digital Energy SG Series 3ƒ UPS
500KVA with 5th Harmonic Filter & Remote Status Panel

APPLICATION

The GE Digital Energy SG Series is one of the best performing and most reliable three-phase UPS systems providing critical power protection for medical imaging systems. The SG Series UPS was developed using GE's Design for Six Sigma methodology ensuring that the product fully meets customer requirements and expectations. It produces extremely low output voltage distortion during step loads from 0-100% thus making it ideal for diagnostic imaging systems. Its superior performance enables GE to correctly size the UPS for the application resulting in significant savings in initial and life cycle costs compared to other systems. Each UPS consists of an internal Harmonic Input Filter, which reduces reflected input harmonics, resulting in greater reliability when used with generator. All SG Series systems operate in a double conversion mode with true continuous on-line VFI (voltage and frequency independent) operation yielding the maximum levels of power reliability for a wider range of mission-critical applications.

FEATURES & BENEFITS

- Extremely low output voltage distortion for non-linear and 100% step loads reducing the need for over-sizing the UPS.
- Input 5th harmonic filter reduces the input distortion (input THD) to less than 7%. This is integrated into the UPS.
- Utilizes SVM (Space Vector Modulation), an advanced PWM (Pulse Width Modulation) digital control technique, to modulate the inverter resulting in extremely low output distortion and fast transient response with high efficiency.
- Remote Status Panel. This wall-mounted panel is hard wired to the UPS allowing it to be remotely monitored. The panel consists of a UPS mimic diagram with alarm LED's and buzzer.
- Standard inverter output isolation transformer that isolates utility power from the load providing additional critical power protection.
- Superior Battery Management (SBM) with user programmable configurations for battery testing and DC fault detection.
- Battery system with integral battery breaker and 5min. runtime at full load.
- Inrush current limited by soft start circuit with adjustable Power Walk-In.
- Designed for serviceability with front service access reducing maintenance and repair costs
- Integrated internal manual maintenance bypass eliminating the need for external equipment.
- **If external wrap around bypass is required, recommend using 500KVA Bypass Panel E4504CM.**
- UPS operation simplified by automatic start-up procedure and a user-friendly interface. Installation to be carried out by licensed electrician.
- Start up and on site commissioning included.
- 12-month warranty with 24x7 service availability for UPS and Battery System including parts and labor. Ten-year pro-rated warranty on batteries.

SPECIFICATIONS

GENERAL DATA	
Nominal output power @ PF= 0.8 lag:	**500KVA**
Overall efficiency @ 100% load, 0.8pf:	**93.80%**
Heat Rejection/Operating Temp:	**90,236 BTU / 72°F**
Audible Noise:	**65db**
Max. Leakage Current	**9.9mA**
Standards:	**UL 1778, ISO9001, IEEE 587B**
INPUT (RECTIFIER)	
Configuration:	**Six pulse, Three phase bridge**
Voltage:	**480VAC, 3ph+Neutral+gnd**
Range:	**-20% to +15% (384 - 552VAC)**
Frequency:	**60Hz**
Range:	**+/-10% (54-66Hz)**
Power Factor:	**0.8**
Max. Current:	**770 amps**
Nominal Current:	**640 amps**

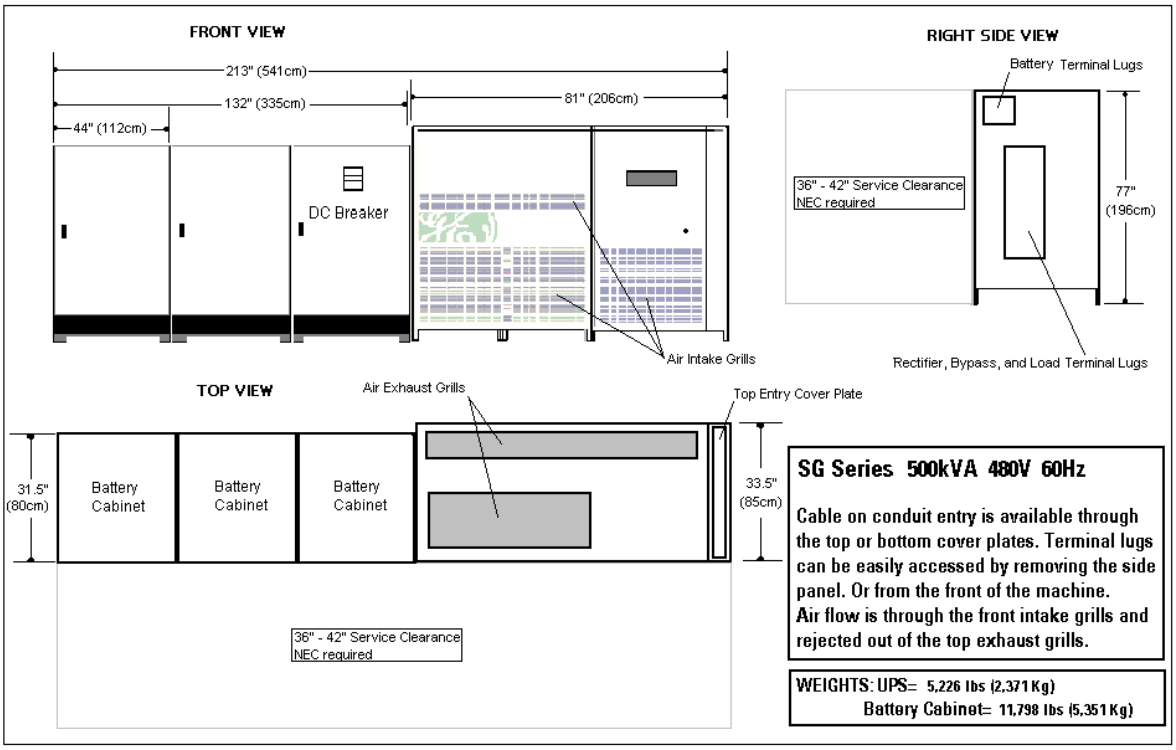
BATTERY	
Type:	**Valve Regulated, Lead Acid**
Runtime @ 100% load	**5 minutes**
KWB @ 100% load, 0.8pf:	**419**
Float Voltage:	**540VDC**
Max. Discharge:	**1060 amps**
OUTPUT (INVERTER)	
Configuration:	**IGBT Using PWM and SVM**
Voltage:	**480VAC, 3ph+Neutral+gnd**
Voltage Tolerance:	**+/-3% for 0-100% Step Load**
Distortion THD:	**2% Max. for Linear Load**
Frequency:	**60Hz**
Range:	**Adjustable +/-4% (57.6-62.4Hz)**
Power Factor:	**Can deliver full load at 0.8**
Max. Current:	**600 amps**

INSTALLATION NOTE

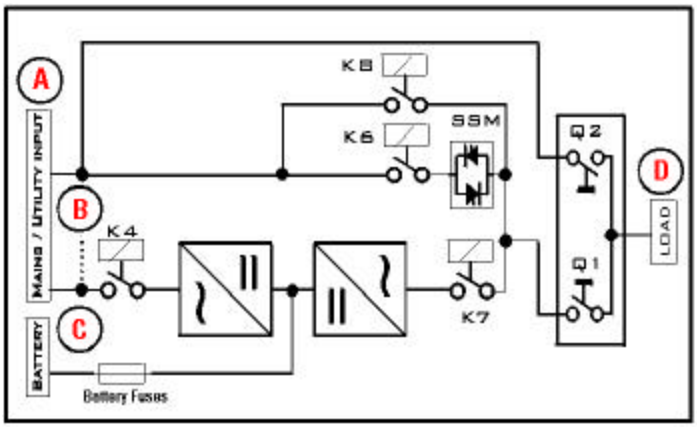
It is strongly recommended that the UPS and battery be located in a room separate from the equipment it is protecting and isolated from high traffic or patient areas. Although the UPS meets noise levels defined by NEMA, these levels may be higher than desired for patient environments or hospital work areas.

SITE PLANNING GUIDELINES

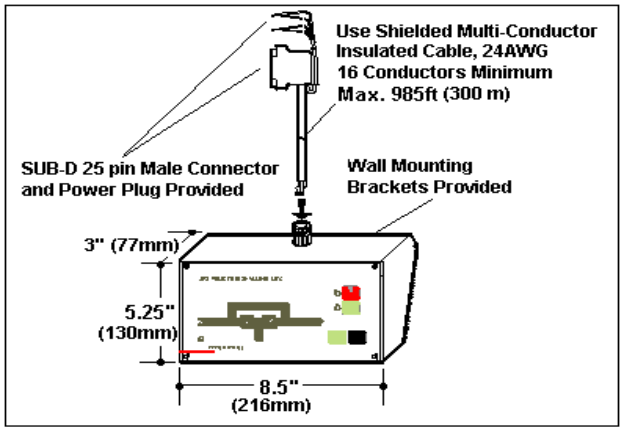
Mechanical Layout, UPS and Battery System



Electrical Layout, UPS Module



Remote Status Panel



A Utility input requires **480VAC 3ƒ, plus Neutral, plus GND**. Input terminals may accept up to **4 X 500 kcmil** cable. Maximum over current protection rating is **1000 amps** per NEC 210-20.A This rating is based on the maximum and nominal input currents of the UPS as noted in the specifications above. The UPS is not a separately derived power source. Ensure the UPS is fed from a solidly grounded "wye" system.

B The UPS may be configured for common or separate bypass and rectifier inputs. If configured for separate inputs the interconnection jumpers can be removed. In this case a neutral must be brought to the bypass input. The bypass line may have a maximum over current protection rating of **800 amps** per NEC 210-20.A The bypass line can accept up to **4 X 300 kcmil** cable.

C The Battery cabinet has an internal DC breaker. Battery terminals may accept up to **4 X 600 kcmil** cable and should be sized for a 2.0 volt maximum line drop from battery to module. (*These cables are not provided*)

D The Load output is **480VAC 3ƒ, plus Neutral, plus GND**. Output over current protection should be sized according to NEC 210-20.A and the specific load requirements at the site. Output terminals may accept up to **4 X 300 kcmil** cable.