Programmable Precision High Power DC Power Supply

- High Power Density: up to 15 kW in 3U, 30 kW in a 6U chassis
- Wide Voltage Range: 0-10V up to 0-1000V, from 4 to 30 kW
- Fast Load Transient Response: Protection from undesired voltage excursions
- Low Ripple and Noise
- Hardware Trigger (Ethernet Option)
- Parallelable up to 150 kW
- Sequencing: Free system controller & speed up test
- Low audible noise: Temperature controlled variable speed fans

The Sorensen SG Series (hereafter SG Series) represents the next generation of high power programmable DC power supplies. The SG Series is designed for exceptional load transient response, low noise and the highest power density in the industry. With a full 15 kW available down to 20VDC output in a 3U package the SG leads the industry in power density. The power density is enhanced by a stylish front air intake allowing supplies to be stacked without any required clearance between units.

At the heart of the SG series is a 5 kW power module. Depending on the output voltage, one to six modules can be configured in a single chassis to deliver 5 kW to 30 kW of power. Combinations of these chassis can then be easily paralleled to achieve power levels up to 150 kW. Paralleled units operate like one single supply providing total system current. Available in two control versions, the SGA has basic analog controls, while the SGI provides intelligent control features.



SGI: Advanced Intelligent Control

(Sorensen General purpose Intelligent) The SGI combines onboard intelligent controls with the outstanding power electronics common to all SG family supplies. These controls enable sophisticated sequencing, constant power mode and save/recall of instrument settings. Looping of sequences makes the SGI ideal for repetitive testing. An impressive vacuum fluorescent graphical display in eight languages, context sensitive "soft" keys and front panel keyboard simplify programming of the SGI.

SGA: Outstanding Value - Analog Control

(Sorensen General purpose Analog) The SGA, with its industry leading performance, is available for customers requiring simple front panel analog controls or external control. With the same high performance power electronics as the SGI, the SGA provides essential features like 10- turn potentiometers for setting voltage and current, 3 ½ digit LED readout plus front panel over-voltage protection (OVP) preview/adjustment and reset.

	5	-600	A 00
\approx	208	400	480
ETHERN	GPIE	L X/	RS232
ww	w.sjele	ctroni	1455 cs.co.uk

AMETEK Programmable Power 9250 Brown Deer Road San Diego, CA 92121-2267 USA



10-1000 V

SG Series : Product Specifications

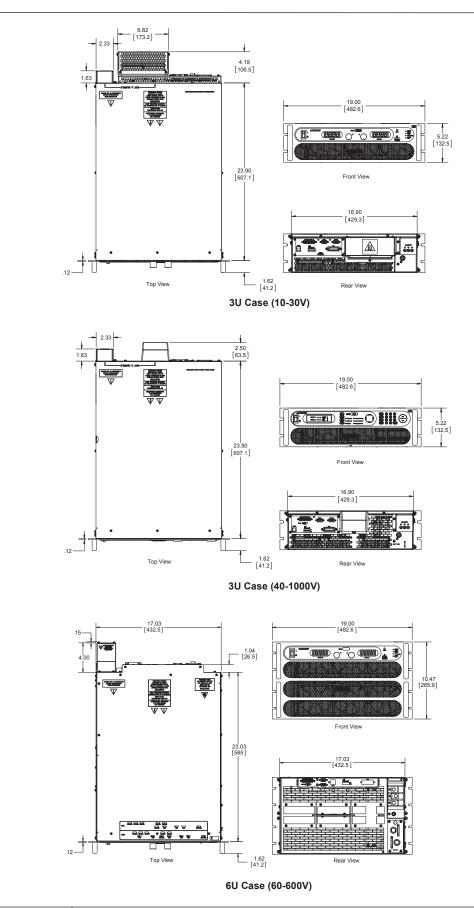
Common									
Remote Sense	Terminals are provided to sense output voltage at point of load. Maximuline drop 1V of rated voltage per line for 10-20V models, 1.5V for 30V greater. (Greater line drop is allowed, but output regulation specificated section of the					v models, 2% of ra	ted voltage per line for models 160V and		
Parallel Operation		may be paralleled for additional current within the power supply single-unit specifications, with exception of the current set accuracy. Additional paralleled SG units will add 0.3% inaccuracy per unit. To parallel more than 5 units, ctory.							
Series Operation		ts (see Output Float Voltage)							
Input									
Nominal Voltage 3 phase, 3 wire + g	+ ground 380/400 VAC		AC (operating range 187 - 253 VAC) AC (operating range 342 - 440 VAC) AC (operating range 396 - 528 VAC)						
Frequency			00Hz (400Hz @ 20	8VAC, for 6	U units is optional modifica	tion and does not	carry CE, UL or CSA markings)		
Power Factor		for 10V - 30V, 50V, 1000V and other models with optional "PF" modification. I for 208/220 VAC input (40V, 60V - 800V models, 0.9 available with modification "PF") I for 380/480 VAC input (40V, 60V - 800V models, 0.9 available with modification "PF") I for 440/480 VAC input (40V, 60V - 800V models, 0.9 available with modification "PF")							
Protection (typical)			hough , typical, on a 6.4 msec on all 3 p		ases, 3 cycle ride through o	n single phase; mis	ssing phase shutdown		
Programming &	Read-back Specif								
, <u>.</u>	-	Programming			Read-Back / Monito	ring			
	Accura		Resolution		Accuracy	Resolution	1		
SGA: +/- (0.5%fs + SGI (40-1000V) +/- voltage at full sc: SGI (40-1000V) +/-		1 digit) 0.1% of 1le 0.4% of	SGA: 3.5 digits	SGI, Volta	(0.5%fs + 1 digit) age: +/- 0.1% of full scale ent: +/- 0.4% of full scale	SGA: 3.5 digits			
Front panel Display	SGI (10-30V) 0.1% of set point +0.1% of voltage rating SGI (10-30V) 0.1% of set point +0.4% of current rating		SGI: 4.0 digits	SGI (10-30V) 0.1% of actual +0.15% voltage rating		SGI: 4.0 digits	Knob control & Display read-back		
Remote Analog Interface	Voltage +/-0.25% of full scale Current (40-1000V) 0.8% of full scale , (10-30V) 1.0% of full scale		NA		V) +/-1.0% of full scale +/-0.5% of full scale	NA	25-pin D-sub connector (0~5 V or 0~10 V)		
Remote Digital Interface	Voltage: +/- 0.1% of full scale, Current: +/- 0.4% of full scale		+/-0.002% of full scale		+/- 0.1% of full scale +/- 0.4% of full scale	+/-0.002% of full scale	RS-232C (Standard on SGI), Optional IEEE-488.2 and Optional LXI Compliant 10/100 base-T Ethernet (see Options)		
OVP	+/- 1% of full scale		+/-0.002% of full scale				Programming range: 5-110% Configured from front panel, remote analog or via optional digital inputs		
User I/O	Disconnect & Polarity-reversal relay control (C			ol (Only available with Ethernet Option) Digital 10-pin Molex type connector See www.programmablepower.com					
Software	IVI & CVI drivers ava	ailable under SUI	PPORT at: www.Pro	grammable	Power.com				
Physical		3U N	lodels (10V-30\	/)	3U Models (40)	/-1000V)	6U Models (60V-600V)		
Width		19.00 in (48.3	cm)		19.00 in (48.3 cm)		19.00 in (48.3 cm)		
Depth 28.09 in (28.09 in (71.3	.35 cm)		26.4 in (67.1 cm)		27.18 in (69.04 cm)		
Height 5.25 in (13.3 c		m) 5		5.25 in (13.3 cm)		10.5 in (26.7 cm)			
Weight (4kW, 10V 15V (5kW, 20V 30V (8kW, 10V 15V (10kW, 20V 30 (12kW, 10V 15V (12kW, 10V 15V)		$\gamma \approx <65$ lbs (29 kg) (5kW) $\approx <60$ lbs (27 kg) $\gamma \approx <65$ lbs (29 kg) (10kW) $\approx <75$ lbs (34 kg) $\gamma \approx <85$ lbs (39 kg) (15kW) $\approx <90$ lbs (41 kg) $V \approx <85$ lbs (39 kg) (15kW) $\approx <90$ lbs (41 kg) $V \approx <85$ lbs (50 kg) (10kW) $\approx <90$ lbs (41 kg) $V \approx <110$ lbs (50 kg) (10kW) $\approx <10$ lbs (50 kg)			(20kW) ≈ ≤140 lbs (64 kg) (25kW) ≈ ≤155 lbs (71 kg) (30kW) ≈ ≤170 lbs (78 kg)				
Shipping Weight		Contact factor	y for more product	& shipping	, J weights				

SG Series : Product Specifications

Output									
Ripple & Noise (Voltage Mode, Typical)	See Output: Volt ft. cable, 1µf		t Ranges Cha	art below. Ripple a	and noise specit	fied at full load, i	nominal AC input. Nois	e measured with 6	
Ripple (Current Mode)	<+/- 0.04% of full scale rms current								
Output Rise Time (40-1000V)	≈< 100 ms 10-90% of full scale typical - full resistive load (Contact factory for model specific slew rates)								
	Rise Time, ms, max Condition								
Output Voltage Rise Time (10-30V)	10			Measured from 10% to 90% of the output voltage change - resistive load, typical					
	Fall Time, ms max			Condition					
Output Voltage Fall Time (10-30V)	No Load 1 100% CC Load 100% CR Load Measured from 90% to 10% of the output voltage change re						aango - rosistivo		
	50 10				load, typical			lange Tesistive	
	Rise Time, ms m								
Output Current Rise Time (10-30V)		ал 		Condition Measured from 10% to 90% of the output current change - resistive load, typical					
	20						nange - resistive load,	турісаі	
Output Current Fall Time (10-30V)	Fall Time, ms ma	AX		ndition	400/ 51			. • •	
	10		L		to 10% of the	output current c	hange - resistive load,	typical	
Line Regulation (with sense wires used)	(±10% of nominal AC input, constant load) Voltage Mode: +/- 0.01% of full scale (40-800V) Current Mode: +/- 0.05% of full scale (40-800V) Voltage Mode and Current Mode: +/- 0.05% of full scale (10-30V)								
Load Regulation (with sense wires used)	(no load to full load, nominal AC input) Voltage Mode: +/- 0.02% of full scale (40-800V) Current Mode: +/- 0.1% of full scale Voltage Mode: +/- 0.05% of full scale (10-30V)								
Load Transient Response	Recovers within	1ms to +/-0.	75% of full-s	cale of steadystat	e output for a 5	50% to 100% or	100% to 50% load cha	inge	
Efficiency	87% typical at nominal line and max load								
	±0.05% of set point after 30 minute warm-up and over 8 hours at fixed line, load and temperature, typical								
Stability			minute warm	n-up and over 8 h	ours at fixed lin	e, load and temp	perature, typical		
•	±0.05% of set p 0.02%/ C of ma	ooint after 30 ximum outpu	t voltage rati	n-up and over 8 h ng for voltage set ng for current set	t point, typical	e, load and temp	perature, typical		
Stability	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin	ooint after 30 ximum outpur ximum outpur al within +/-	t voltage rati t current ratii 300 V of cha	ng for voltage set ng for current set	t point, typical point, typical /e recommend t	the use of option	al isolated analog Inter	face (IAI).)	
Stability Temperature Coefficient	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s	ooint after 30 ximum outpur ximum outpur al within +/-	t voltage rati t current ratii 300 V of cha	ng for voltage set ng for current set ssis potential. (W	t point, typical point, typical /e recommend t	the use of option	al isolated analog Inter	face (IAI).)	
Stability Temperature Coefficient Output Float Voltage	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s	ooint after 30 ximum outpur ximum outpur al within +/-	t voltage rati t current ratii 300 V of cha	ng for voltage set ng for current set ssis potential. (W	t point, typical point, typical /e recommend t	the use of option	al isolated analog Inter		
Stability Temperature Coefficient Output Float Voltage	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s	point after 30 ximum outpur ximum outpur al within +/- peries" have a	t voltage rati t current ratii 300 V of cha	ng for voltage set ng for current set ssis potential. (W	t point, typical point, typical /e recommend t west current sup	the use of option	al isolated analog Inter n.		
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es	point after 30 ximum outpur ximum outpur al within +/- xeries" have a 3U	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW	ng for voltage set ng for current set ssis potential. (W ent limit of the low	t point, typical point, typical /e recommend t west current sup 6U	the use of option oply in the syster	al isolated analog Inter n. Ripple 8	Noise	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Power	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es	point after 30 ximum outpur ximum outpur al within +/- xeries" have a 3U	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW	ng for voltage set ng for current set ssis potential. (W ent limit of the low 16/20 kW	t point, typical point, typical /e recommend t west current sup 6U	the use of option oply in the syster	al isolated analog Inter n. Ripple & rms	Noise p-p	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Power Voltage	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW	ximum outpur ximum outpur al within +/- xeries" have a 3U 8/10 kW	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C	ng for voltage set ng for current set ssis potential. (W ent limit of the low 16/20 kW urrent	t point, typical point, typical /e recommend t west current sup 6U 20/25 kW	the use of option oply in the syster 24/30 kW	al isolated analog Inter n. Ripple & (20 Hz-300 kHz)	Noise p-p (20 Hz-20 MHz)	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Power Voltage 10	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW	ximum outpur ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200	ng for voltage set ng for current set ssis potential. (W ent limit of the low 16/20 kW urrent 1600*	t point, typical point, typical Ve recommend t west current sup 6U 20/25 kW 2000*	the use of option oply in the syster 24/30 kW 2400*	al isolated analog Intern. Ripple & (20 Hz-300 kHz) 20 mV	Noise p-p (20 Hz-20 MHz) 50 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Power Voltage 10 15	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267	ximum outpur ximum outpur val within +/- veries" have a 3U 8/10 kW 800 534	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200 801	ng for voltage set ng for current set ssis potential. (W ent limit of the low 16/20 kW urrent 1600* 1068*	t point, typical point, typical /e recommend t west current sup 6U 20/25 kW 2000* 1335*	the use of option oply in the syster 24/30 kW 2400* 1602*	al isolated analog Inter n. Ripple & (20 Hz-300 kHz) 20 mV 20 mV	p-p (20 Hz-20 MHz) 50 mV 50 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Power Voltage 10 15 20	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250	ximum outpur ximum outpur al within +/- xeries" have a 3U 8/10 kW 800 534 500	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200 801 750	ing for voltage set ng for current set ssis potential. (W ent limit of the low 16/20 kW urrent 1600* 1068* 1000*	t point, typical point, typical /e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250*	24/30 kW 24/00* 1602* 1500*	al isolated analog Inter n. Ripple & (20 Hz-300 kHz) 20 mV 20 mV 20 mV	Noise p-p (20 H2-20 MH2) 50 mV 50 mV 60 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Voltage 10 10 15 20 30	+0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167	al within +/- al within +/- aries" have a 3U 8/10 kW 800 534 500 334	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200 801 750 501	ing for voltage set ng for current set ssis potential. (Went limit of the low 16/20 kW urrent 1600* 1068* 1000* 668*	t point, typical point, typical /e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250* 835*	the use of option oply in the system 24/30 kW 2400* 1602* 1500* 1002*	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV 20 mV 20 mV 20 mV	Noise p-p (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Voltage 10 15 20 30 40	+0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125	al within +/- series" have a 3U 8/10 kW 800 534 500 334 250	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200 801 750 501 375	ing for voltage set ing for current set ssis potential. (Went limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500*	t point, typical point, typical /e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625*	24/30 kW 24/30 kW 2400* 1602* 1500* 1002* 750*	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 15 20 30 40 50	+0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100	al within +/- ial within +/- iaries" have a 3U 8/10 kW 800 534 500 334 250 200	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200 801 750 501 375 300	ng for voltage set ng for current set ssis potential. (W nt limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400*	t point, typical point, typical /e recommend twest current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500*	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600*	al isolated analog Intern. Ripple & 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV 20 mV	Noise 20 H2-20 MH2) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 15 20 30 40 50 60	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83	al within +/- ial within +/- ial within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167	t voltage rati t current ratii 300 V of cha: system current 12/15 kW C 1200 801 750 501 375 300 250	Ing for voltage set ng for current set sis potential. (Went limit of the low Information of the low Information of	t point, typical point, typical //e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV	Noise P-P (20 H2-20 MH2) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Voltage 10 15 20 30 40 50 60 80	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83 63	al within +/- series" have a 3U 8/10 kW 8/00 534 500 334 250 200 167 125	t voltage rati t current ratii 300 V of cha: system current 12/15 kW C 1200 801 750 501 375 300 250 188	ng for voltage set ng for current set ssis potential. (Went limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 333 250	t point, typical point, typical //e recommend to west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Voltage 10 15 20 30 40 50 60 80 100	+0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83 63 50	200111 after 30 ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 100	t voltage rati t current ratii 300 V of chas system current 12/15 kW CC 1200 801 750 501 375 300 250 188 150	ng for voltage set ng for current set ssis potential. (Went limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 333 250 200	t point, typical point, typical /e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV 100 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 10 15 20 30 40 50 60 80 100 160	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83 63 50 31	200111 after 30 ximum outpur ximum outpur al within +/- eeries" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 100 63	t voltage rati t current ratii 300 V of cha: system curre 12/15 kW C 1200 801 750 501 375 300 250 188 150 94	ng for voltage set ng for current set ssis potential. (W nt limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 333 250 200 125	t point, typical point, typical /e recommend twest current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250 156	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300 188	al isolated analog Intern. Ripple & 20 mV 20 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV 100 mV 100 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 10 15 20 30 40 50 60 80 100 160 200	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "S es 4/5 kW 400 267 250 167 125 100 83 63 50 31 25 25	ximum outpur ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 100 63 50	t voltage rati t current ratii 300 V of cha: system current 12/15 kW C 1200 801 750 501 375 300 250 188 150 94 75	ng for voltage set ng for current set ssis potential. (W ent limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 333 250 200 125 100	t point, typical point, typical //e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250 156 125	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300 188 150	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV	Noise P-P (20 H2-20 MH2) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV 100 mV 150 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Rang Voltage 10 10 15 20 30 40 50 60 80 100 160 200 250	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83 63 50 31 25 20	boint after 30 ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 100 63 50 40	t voltage rati t current ratia 300 V of cha: system current 12/15 kW C 1200 801 750 501 375 300 250 188 150 94 75 60	ng for voltage set ng for current set sis potential. (Went limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 333 250 200 125 100 80	t point, typical point, typical // recommend to west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250 156 125 125 100	24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300 188 150 120	al isolated analog Intern. Ripple & (20 Hz-300 kHz) 20 mV 20 mV 30 mV 30 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV 100 mV 100 mV 150 mV 200 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 10 15 20 30 40 50 60 80 60 80 100 160 160 200 250 330	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83 63 50 31 25 20 15	boint after 30 ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 100 63 50 40 30	t voltage rati t current ratin 300 V of cha: system current 12/15 kW CC 1200 801 750 501 375 300 250 188 150 94 75 60 45	ng for voltage set ng for current set ssis potential. (Went limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 3333 250 200 125 100 80 61	t point, typical point, typical /e recommend f west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250 156 125 100 76	the use of option oply in the system 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300 188 150 188 150 120 91	al isolated analog Intern. Ripple & rms (20 Hz-300 kHz) 20 mV 20 mV 30 mV 30 mV 30 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV 100 mV 100 mV 100 mV 200 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 10 15 20 30 40 50 60 80 60 80 100 160 200 250 330 40 250 330	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "s es 4/5 kW 400 267 250 167 125 100 83 63 50 31 25 20 15 12 12	boint after 30 ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 200 167 125 100 63 50 40 30 25	t voltage rati t current ratin 300 V of chars system current 12/15 kW C 1200 801 750 501 375 300 250 188 150 94 75 60 45 38	ng for voltage set ng for current set ssis potential. (W nt limit of the low 16/20 kW urrent 1600* 1068* 1000* 668* 500* 400* 333 250 200 125 100 80 61 50	t point, typical point, typical /e recommend twest current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250 156 125 100 76 63	24/30 kW 24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300 188 150 188 150 120 91 75	al isolated analog Intern. Ripple & (20 Hz-300 kHz) 20 mV 20 mV 30 mV 30 mV 30 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 60 mV 75 mV 75 mV 75 mV 100 mV 100 mV 100 mV 100 mV 200 mV 200 mV 300 mV	
Stability Temperature Coefficient Output Float Voltage Output: Voltage and Current Range Voltage 10 10 15 20 30 40 50 60 80 60 80 100 160 200 250 250 330 400 500	±0.05% of set p 0.02%/ C of ma 0.03%/ C of ma Negative termin Supplies in "S es 4/5 kW 400 267 250 167 125 100 83 63 63 50 31 25 20 15 12 12 10 15 12 10 10 12 10 11 12 10 11 12 10 10 11 12 10 10 10 11 12 10 10 11 12 10 10 11 12 10 10 10 10 11 12 10 10 10 10 10 10 10 10 10 10	ximum outpur ximum outpur ximum outpur al within +/- series" have a 3U 8/10 kW 800 534 500 334 250 200 167 125 100 63 50 40 30 25 20	t voltage rati t current ratii 300 V of cha: system current 12/15 kW C 1200 801 750 501 375 300 250 188 150 94 75 60 45 38 30	Ing for voltage set ng for current set sis potential. (Went limit of the low Information of	t point, typical point, typical //e recommend t west current sup 6U 20/25 kW 2000* 1335* 1250* 835* 625* 500* 417 313 250 156 125 100 76 63 50	24/30 kW 24/30 kW 24/30 kW 24/00* 1602* 1500* 1002* 750* 600* 500 375 300 188 150 188 150 120 91 75 60	al isolated analog Intern. Ripple & (20 Hz-300 kHz) 20 mV 20 mV 30 mV 30 mV 30 mV 30 mV 30 mV	Noise P-P (20 Hz-20 MHz) 50 mV 50 mV 60 mV 60 mV 75 mV 75 mV 100 mV 100 mV 100 mV 150 mV 200 mV 200 mV 300 mV	

* By way of paralleling 3U supplies

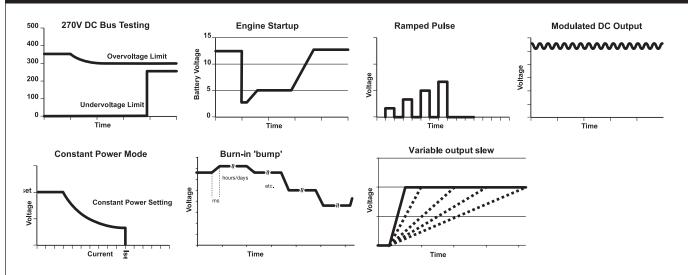
SG Series : Product Diagram



SG Series

4–150 kW

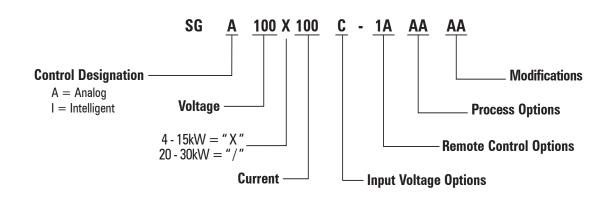
Advanced Power Simulation



SGI model provides constant power mode allowing independent setting of the max voltage, current and power

SGI / SGA Comparison Chart					
Feature	SGA	SGI			
Modular Design	•	•			
Fast Load Transient	•	•			
Parallelable	•	•			
Analog & Digital Summing	Optional	•			
Direct Front Panel V/I Control	•	•			
3½ Digit LED Readout	•				
Graphics Display		•			
Sequencing		•			
Save/Recall Setups		•			
System Power Readouts		•			
Constant Power Mode		•			
IEEE-488.2/RS-232C	Optional	RS-232C Std, IEEE-488.2 Optional			
LXI Class C Ethernet/ RS-232	Optional	RS-232C Std, Ethernet Optional			
Front Panel Dust Filter	Optional (3U unit only)	Optional (3U unit only)			
Environmental					
Operating Temperature	0 to 50° C				
Storage Temperature	-25° C to 65° C				
Humidity Range	Relative humidity up to 95% non-condensing, 0° C – 50° C				
Altitude	Operating full power available up to 5,000 ft. (~1,500 m), derate 10% of full power for every 1,000 feet higher; non-operating to 40,000 ft. (~12,000 m)				
Cooling	Front and side air inlet, rear exhaust. Temperature controlled, variable speed fans. Units may be stacked without spacing.				
Regulatory	Certified to UL/CSA 61010 and IEC/EN 61010-1 by a NRTL, CE Compliant, Semi-F47 Compliant. LVD Categories: Installation Category II: Pollution Degree 2; Class II Equipment: for Indoor Use Only, back panel not user accessible (see user manual for installation instructions) EMC Directive, EN 61326:1998				
Front Panel Dust Filter	30 PPI (Pores Per Inch) - must ensure adequate airflow and / or de	rate max. temperature. 3U unit only.			

SG Series



(For units with greater than 3 digits, Voltage/Current is represented in numeric format, e.g., above "100" represents 100A. For units at 1000 and above, the voltage is represented by the format "XKX", e.g. 1K2 = 1200V and 1K0 = 1000V)

Options and Accessories	
Control Options	A: Analog I: Intelligent
Input Options	C: Input Voltage 187 / 242VAC, 3 Phase D: Input Voltage 342 / 440VAC, 3 Phase E: Input Voltage 396 / 528VAC, 3 Phase
Remote Control Options	0A: No Option 1A: IEEE-488.2 + RS-232C (Note: SGI comes standard with RS-232C) 1C: Ethernet + RS-232C 1D: Isolated Analog Control 1E: Shaft Locks (SGA series only) 2A: Combined Options 1A+1D 2C: Combined Options 1A+1E (SGA Only) 2G: Combined Options 1C+1D 2H: Combined Options 1C+1E (SGA Only) 2J: Combined Options 1D+1E (SGA Only) 3C: Combined Options 1A+1D+1E (SGA Only) 3G: Combined Options 1C+1D+1E (SGA Only)
Process Options	AA: No option AB: Certificate of Calibration to ANSI / NCSL Z540-1 (includes Test Data)
Modifications	AJ: Front panel dust filter - factory installed - 3U unit only CV: 400Hz AC input @ 208 VAC (does not carry CE, CSA or UL marks) (6U only) STD on 3U PF: Passive power factor correction to 0.9 (Only applicable to 40V, 60V to 800V. Included in 10V-30V, 50V and 1000V.)
Accessories	890-453-03: Paralleling Cable (for up to 5 units, requires one cable per unit placed in parallel) K550212-01: 3U Rack Slides (for 5kW, 10kW and 15kW models) K550213-01: 6U Rack Slides (for 20kW, 25kW and 30kW models) K550532-01: Front panel dust filter - field installation kit - 3U unit only 5551082-01: Optional AC input cover kit - 3U unit only
Contact factory for other combina	tions

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