

Simple operation

The high power NSG 1007 series can be operated completely from its menu driven front panel controller. A backlit LCD display shows menus, setup data, and read-back measurements. IEEE-488 and RS232C remote control interfaces and instrument drivers for popular ATE programming environments are available. This allows the NSG 1007 series to be easily integrated into an automated test system. For advanced test applications, the programmable controller version offers full arbitrary waveform generation, time and frequency domain measurements, and voltage and current waveform capture.

- High power AC/DC power source and power analyser
- Arbitrary waveform generation
- Built-in digital power analyser
- Meets source requirements for IEC 61000-3-2 ,-3-3,-3-11,-3-12

Product evaluation and test

Increasingly, manufacturers of high power equipment and appliances are required to fully evaluate and test their products over a wide range of input line conditions. The built-in output transient generation and read-back measurement capability of the high power NSG 1007 series offers the convenience of a powerful, and easy to use, integrated test system.

High crest factor

With a crest factor of up to 3:6, the NSG 1007 sources can drive difficult nonlinear loads with ease. Since many modern products use switching power supplies, they have a tendency to draw high repetitive peak currents. The Teseq sources can deliver a repetitive peak current of more than 3 times their rated continuous current.

Multi-Box configurations

For high power applications, two or three NSG 1007 chassis can be combined to provide 90 to 270 kVA of three phase power. Higher power systems are always configured for three phase operation. Contact sales for custom configurations.

Odering information

Model	Outuput power AC	Output phases	Input voltage	Input phases
			Voltages stated are line to Line ±10%	
	kVA		Volts AC	1
NSG 1007-30-208	30	1 or 3	208	3
NSG 1007-30-400	30	1 or 3	400	3
NSG 1007-45-208	45	1 or 3	208	3
NSG 1007-45-400	45	1 or 3	400	3





Remote control

Standard IEEE-488 and RS232C remote control interfaces allow programming of all instrument functions from an external computer. The popular SCPI command protocol is used for programming.



Windows® application software is included with the NSG 1007 sources. This software provides easy access to the power source's capabilities without the need to develop any custom code. The following functions are available through this GUI program:

Steady state output control (all parameters)

- Create, run, save, reload and print transient programs
- Generate and save harmonic waveforms
- Generate and save arbitrary waveforms
- Measure and log standard measurements
- Capture and display output voltage and current waveforms
- Measure, display, print and log harmonic voltage and current measurements
- Run IEC 61000-4-11, IEC 61000-4-14 and IEC 61000-4-28 test programs
- Display IEEE-488 or RS232C bus traffic to and from the AC source to help develop your own test programs

Requires PC running WindowsXP™ or Windows 2000™ or Windows Vista™



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Model	NSG 1007-30		NSG 1007-45		
Supply voltage	208	400	208	400	
Operating modes	AC, DC or AC + DC				
Frequency range	16 to 819 Hz				
Total power	30 kVA		45 kVA		
Load power factor	0 to 1 at full rated power				
AC mode voltage	Voltage ranges AC AC + DC Load regulation Line regulation	Low 0 tc 0 tc	150 V 150 V <0.25% DC-100 <0.5% 100-819 <0.1% FS for 10	High 0 to 300 V 0 to 300 V Hz Hz % line change	
Harmonic distortion	<1% from 16-66 Hz, <2% from 66-500 Hz, <3% above 500 Hz			e 500 Hz	
DC offset	20 mV				
External amplitude modulation	Depth 0-10%, Frequency DC-2 kHz				
Voltage slwe rate	200 µs for 10% - 90% of full scale change, into a resistive load				
AC mode current	Maximum current				
Low range Per phase	66.6		100		
Low range Single phase	200		300		
High range Per phase	33.3		50		
High range Single phase	100		150		
Peak repetitive AC current	Up to 3.6 times steady state current at full scale voltage			age	
Programming accuracy	Voltage±0.3 VrmsFrequency±0.01% of programmed valueCurrent limit0 to 5% of programmed valuePhase<0.05% +0.02% / 100 Hz with balanced load				
Programming resolution	Voltage (rms) Frequency Current limit Phase	 i) 100 mV 0.01 Hz 16–81.91 Hz, 0.1 Hz 82.0-819.1 Hz t 0.1 Amps in 3Ø mode, 1 Amp in 1Ø mode 0.1° 			
DC mode output	Voltage range DC	Low 200 V	/olts	High 400 Volts	
Maximum power	6,500 Watts per o	utput	10,000 Watts pe	er output	
Line regulation	<0.1% FS for 10% line change				



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Model	NSG 1007-30		NSG 1007-45		
Supply voltage	208	400	208	400	
Load regulation	<0.25% FS				
Output accuracy	±1 Vdc				
Ripple	<2 Vrms low range, <3 Vrms high range				
DC mode current	Maximum DC current per output				
200 V range	33.3		50		
400 V range	16.6		25		
Current limit	Programmable from zero to maximum current for selected rar		ected range		
AC + DC output power	Maximum current and power in AC + DC mode is the same as for DC mode				
Storage	Non volatile memory storage, 16 instrument setups, 200 user defined waveforms				
Waveforms	Waveform typesSine, square, clipped sine, user definedUser defined waveformFour groups of 50 user defined waveformsStorageof 1024 points.				
System interface	InputsRemote shut down, external synch, clock/lock (optional)OutputsFunction strobe, clock/lock (optional)				
Protection	Over load Constant current or constant power mode Over temperature Automatic shutdown				
Remote control	IEEE-488.2 and RS 232C SCPI syntax				
AC Input voltage	208 Vac ± 10%	400 Vac ± 10%	208 Vac ± 10%	400 Vac ± 10%	
Steady state line current (per phase)	116 Arms	60 Ams	175 Ams	90 Ams	
Line frequency	47-63 Hz	•	•		
Distortion	<8% at full power, <20% below 35% of rated power				
Efficiency	85% typical				
Power factor	0.95 typical				
Dimensions (per chassis)	Height 1270 mm, width 731 mm, depth 876 mm (50" x 29" x 35")				
Weight	Net 522 kg, shipping weight 560 kg				
Mechanical	Designed to meet NSTA 1A transportation levels. Units are shipped in wooden crate with forklift slots				
Cooling	Forced air, front intake, rear exhaust				
Environmental	Operating: 0 to +40°C 0-95% RH non condensing. Storage: -20 to + 85°C				
Regulatory	IEC 61010, EN50081-2, CE EMC and safety mark requirements CISPR 11 group 1, class A				



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Note: Specifications are subject to change without notice. Specifications are warranted over an ambient temperature range of $25^{\circ} \pm 5^{\circ}$ C. Unless otherwise noted, specifications are per phase for a sine wave with a resistive load and apply after a 30 minute warm-up period. For three phase configurations, all specifications are for L-N. Phase angle specifications are valid under balanced load conditions only.

Parameter	Range	Resolution*	Accuracy* ±	
			<100 Hz	100 to 500 Hz
Frequency	16–500 Hz 100-820 Hz	0.01 Hz 0.1 Hz	0.01% + 0.01 Hz	
RMS voltage	0-400 V	10 mV	0.5 V + 0.02%	0.1 V + 0.02%
RMS current	0–160 A	10 mA	0.15 A + 0.02%	0.3 A + 0.02%
Peak current	0-400 A	10 mA	0.15 A + 0.02%	0.3 A + 0.02%
Crest factor	0.00-6.00	0.01	0.05	
Real power	0–15 kW	10 W	30 W + 0.1%	60 W + 0.1%
Apparent power	0–15 kVA	10 VA	30 VA + 0.1%	60 VA + 0.1%
Power factor	0.00-1.00	0.01	0.01	0.02
Phase	0.0-360.0°	0.1°	2.0°	3.0°
DC voltage	0-400 V	10 mV	0.5 V	
DC current	0-160 A	10 mA	0.5 A	
Power	0-15 kW	10 W	150 W	

Measurement system bandwidth =DC to 6.7 kHz. Accuracy specifications are valid above 100 counts.
 Power Factor accuracy applies to PF >0.5 and VA >50% of range.



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Measurements-Harmonics

Parameter	Range	Resolution*	Accuracy* ±	
			Fundamental	Harmonics
Frequency (fundamental)	16–1000 Hz	0.01 Hz	0.03% + 0.03 Hz	
Frequency (harmonics)	32–16 kHz	0.01 Hz	0.03% + 0.01 Hz	
Phase	0.0-360.0°	0.5°	2° typical	
Voltage	Fundamental + harmonics 2–50	10 mV	750 mV + 0.3%	750 mV + 0.3% / kHz
Current	Fundamental + harmonics 2–50	100 mA	0.5 A + 0.3%	150 mA + 0.3% / kHz

* Accuracy specifications are valid above 100 counts. Accuracy specifications are times three for three phase mode. Harmonics frequency range in single phase mode is 32 Hz to 48 KHz.



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