NoiseKen

Lightning Surge Simulator

LSS-6230

- Lightning Surge Simulator
- Conforming to IEC61000-4-5 ed2 Standard
- Ring wave conforming to ANSI/IEEE C62.45 available
- Max. voltage 6.6kV output focusing on the practical use
- Monitor terminal standard equipped so as for easy waveform pre-checking
- Interlock built-in as the emergency stop function for safety
- Remote control software from PC ready as the option besides the stand-alone operation
- AC/DC CDN standard equipped. Available up to 3-phase AC500V 50A as the option
- CDN for Telecom lines, CDN for interconnection lines, isolation transformer, etc. ready as the option

Specification

Parameter	Specification		
■ Common			
Polarity	Positive / Negative		
Interval	(Minimum charging time) ~999 sec. 1 sec. step		
No. of output setting	1~999 times 1 time step		
■ Surge generating unit			
1.2/50μs-8/20μs Combination waveforms	Voltage surge	Output voltage	0.5~6.0kV ±10%
		Front time	1.2μs±30%
		Duration	50μs±20%
	Current surge	Output current	250~3000A ±10%
		Front time	8μs±20%
		Duration	20μs±20%
	Minimum charge time		10 Sec.
	Output impedance		2Ω±10%
0.5μs-100kHz Ring wave	Voltage surge	Output voltage	0.5~6.0kV ±10%
		Rise time	0.5μs±0.15μs
		Frequency	100kHz±20kHz
	Current surge	2nd peak voltage	40-110% of 1st peak voltage
		3rd peak voltage	40-80% of 2nd peak voltage
		4th peak voltage	40-80% of 3rd peak voltage
	Minimum charge time		5 Sec.
	Output impedance		12 Ω±3 6 Ω at 12 Ω selection in interruptive resistance 30 Ω±8 Ω at 30 Ω selection in interruptive resistance
Coupling network	Line - Line : 18μF, Line - PE : 10Ω+9μF, Line - PE simultaneous coupling (L+N-PE) : 9μF/9μF		
Decoupling coil	1.5mH		
AC EUT power capacity	Single phase AC 240V 16A MAX (50/60Hz)		
DC Eat power capacity	DC125V/16A MAX		
Phase angle control	0~360°±10°, Based on set injection / return angle		
■ Surge generating unit for external CDN			
10/700μs-5/320μs Combination waveforms	Voltage surge	Output voltage	0.5~6.0kV ±10%
		Front time	10μs±30%
		Duration	700μs±20%
	Current surge	Output current	12.5~150A ±10%
		Front time	5μs±20%
		Duration	320μs±20%
	Minimum charge time		15 Sec.
	Output impedance		40Ω±10%
■ Other			
Voltage monitor	BNC output, 1/1000±10%		
Current monitor	BNC output, 1mV/A±10%		
External communication	RS-232C optical communication		
Power supply	AC100V ~120V±10%, AC200V ~240V±10%,50/60Hz Power consumption : Less than 300VA		
Dimension	W430×H515×D500 mm(Projection excluded)		
Mass	Approx. 65kg		

Option

Isolation transformer MODEL:TF-2302P

Versatilely usable not only for AC power supply of our lightning surge simulators but also for kinds of noise testes and measurement equipments.

Parameter	Specification
Max. input voltage	Single phase AC 240V MAX (50/60Hz)
Max. output voltage	30A MAX
Dielectric strength	Primary to core : AC4kV (1 minute) Secondary to core : AC4kV (1 minute) Primary-Secondary : AC4kV (1 minute)
Insulation resistance	≧100MΩ at DC500V
Dimension / Mass	W350×H475×D 400mm (Eye bolts and handles excluded) Approx. 60 kg

CDN for Telecom lines MODEL:LSS-INJ6401TEL

Adaptable for the test to unshielded symmetrical interconnection lines specified in IEC61000-4-5 Standard

Parameter	Specification
Surge input voltage	6.6kV 10/700μs-5/320μs Combination waveform
EUT power capacity	DC50V 100mA
No. of line	4 lines
Decoupling coil	20mH per phase
Matching resistor	40Ω(in combination waveforms) 25Ω(in 10/700μs waveform)
Dimension / Mass	W297×H262×D250mm Approx. 10kg

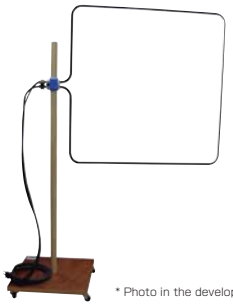
CDN for interconnection lines MODEL:LSS-INJ6400SIG

Adaptable for the test to interconnection lines specified in IEC61000-4-5 Standard. Arrestor installation possible in between the each line and GND.

Parameter	Specification
Surge input voltage	500V~6,600V
EUT power capacity	DC50V/1A
Max. line number	4 lines
Decoupling coil	20mH per phase
Matching resistor	40Ω±10%
Dimension / Mass	W488×H456×D550mm Approx. 45kg

* Please contact us if low voltage surge injection is required

Loop coil MODEL:01-00057A



In the combination with LSS-6230, enable to conduct pulse magnetic field immunity test specified in IEC61000-4-9 Standard
* Scheduling to be released

Parameter	Specification
Max. output voltage	1200A
Waveform	6.4／16μAcurrent surge
Coil dimension	1000×1000mm

* Photo in the development stage

CDN for 3-phase EUT MODEL:LSS-CDN6351

* Photo in the development stage

Adaptable for the surge immunity test specified in IEC61000-4-5 Standard to AC power supply lines of EUT whose power supply up to AC500V/50A. The surge injection angle can be set automatically linked with the generator unit. Also, the line symmetrical operation to AC lines is possible. * Scheduling to be released

Parameter	Specification
Coupling surge waveform	1.2/50μs-8/20μs combination waveforms, 0.5μs-100kHz ring wave
Max. coupling surge voltage / current	Up to the value which can be set in LSS-6230
Coupling network	18μF±10%(LINE - LINE)
Correspondent to IEC 61000-4-5	10Ω+9μF±10%(LINE - PE)
Coupling network	18μF±10%(LINE - LINE, LINE - PE)
ICorrespondent to IEEE/ANSI C62.45	9μF/9μF/9μF/9μF±10%(4 Lines - PE simultaneous injection)
Power supply lines structure for EUT	3-phase : L1/L2/L3/N/PE
EUT power capacity	AC500V/50A MAX 50/60Hz
Decoupling coil	1.5mH
Power supply	AC100V~AC240V ±10% 50Hz / 60Hz
Dimension / Mass	W555×H950×D790 mm(Projection excluded) Approx. 120kg(To be fixed)

Optical USB module MODEL:07-00022A

Optical conversion adaptor Used for remote control with PC. 5m of optical fiber cable with USB interface attached.

EUT Protective Safety Box MODEL:11-00005A/11-00006A

Protection box to prevent access to EUT during the test. Further safety is secured together with the safety protective fence

MODEL	Dimension
11-00005A	W400×D300×H300mm
11-00006A	W600×D350×H400mm

Terminal Connection Board attached with Multi-Outlet MODEL:18-00048B/58B

Enable to connect any outlet figure in the world.

18-00048B : For single phase 3 lines (Voltage strength 4.5kV)
18-00058B : For 3-phase 5 lines (Voltage strength 4.5kV)

Warning lamp MODEL:11-00008A

The blinking makes the operators or neighbors pay attention to the test processing.

Designs and specifications are subject to be changed without notice.

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