

EMC Test Equipment Catalog



- Electrostatic Discharge Simulator
- Impulse Noise Simulator
- Fast Transient / Burst Simulator
- Lightning Surge Simulator
- Voltage Dip & Swell Simulator
- Damped Oscillatory Wave Simulator
- Emission Measurement System
- Broadband Sleeve Antenna
- TEM Horn Antenna
- EMC Test Systems for Automotive Electronics

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www.noiseken.com

Lightning Surge Simulator

LSS-6330 series

model	specification
LSS-6330-A20	left picture : single phase 20 A type lightning surge simulator
LSS-6330-B63	right picture : three phases 63 A type lightning surge simulator

The compact & low-priced 6kV type - It is frequently requested.

A tester simulatively generates "High energy induced lightning noise" which induced to distribution lines or communication lines by ground potential fluctuation caused by lightning strikes.

- Conforming to IEC 61000-4-5 Ed.3, IEC61000-4-12 Ed.3 (RINGWAVE 100kHz) and ANSI IEEE62-45 (2002)
- Pre-checking function simplifies start-up inspection works.
- Voltage and current monitors enable status monitoring during noise applied to EUT.
- Large LCD operation panel improve visibility and operability.
- MPU control function simplifies continuous testing, enables automatic surge-out, waveform-switching and polarity switching.
- Equipped with both manual and program mode to simplify test condition setting. Manual mode: for standard and single-shot testing. Program mode: for different testing in succession.
- Interlocking function provides excellent safety.
- Standardly equipped waveform checking terminals provide easy output waveform checking with existing oscilloscope and BNC cables.
- Isolation transformer available for safety protection for superimposing circuit current leakage and back surge to power source.(Option)



Pre-checking function simplifies start-up inspection works

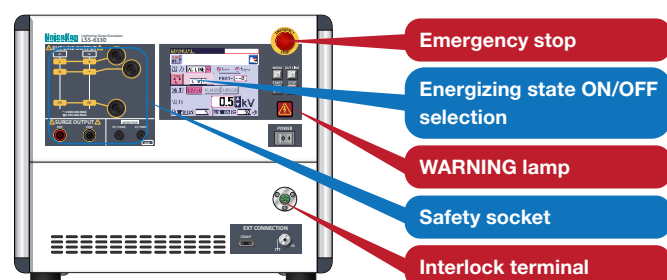
<Conventional>: It requires for two expensive high voltage probes and differential measurement available oscilloscope for start-up inspection works.

<LSS-6330>: Simplifies start-up inspection works only by connecting dedicated cables to the tester to confirm whether or not the output is present. (pre-checking). (Available for SURGE OUTPUT/EUT LINE OUTPUT)



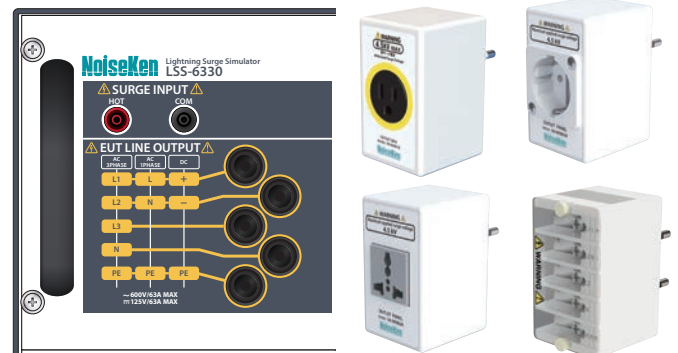
Incorporated "Emergency stop" and "Interlock function" to improve operation safety.

Equipped with operation safety functions in both hardware and software. Safety sockets as well as emergency stop switches and interlock terminals secure operation safety when connecting EUT. In addition, further safety is available by using "protection fences" and "protection boxes" . (option)



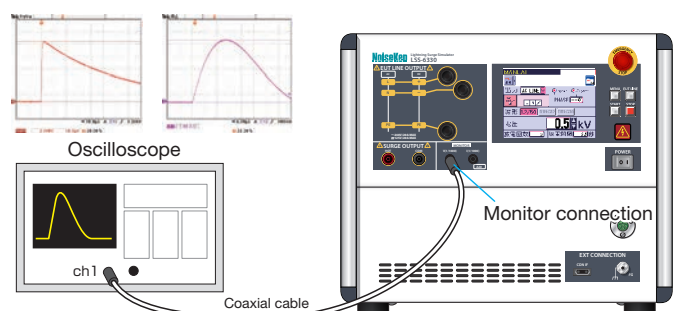
Visualize the testing connection status on monitor display for easy testing condition understanding

Monitor screen displays connection status in order to avoid incorrect power line connection. In addition, an outlet box (option) simplifies testing connection.



Waveform checking terminal enables output waveform monitoring

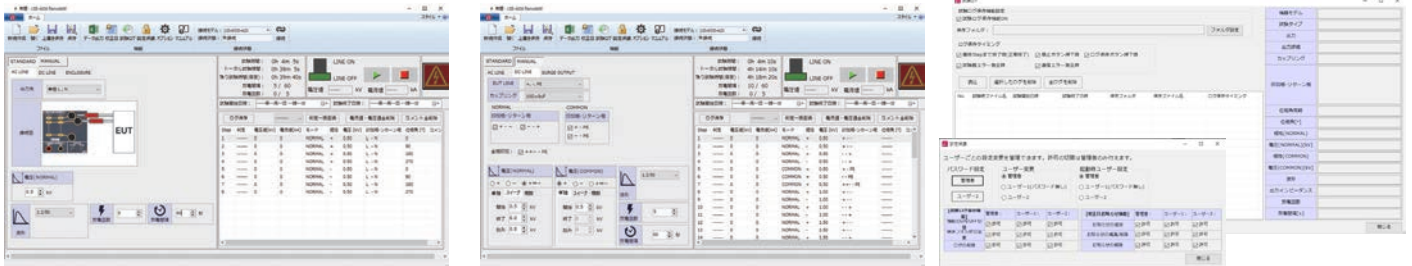
We received many market feedbacks say "I want to check the output waveform during the test", the answer is "Yes we can". We incorporated the checking terminal, and it enables monitoring of applied waveforms to EUT via oscilloscopes during tests. Furthermore, even without oscilloscopes, you could check the voltage & current value on the upgraded monitor screen as well.



LSS-6330 series

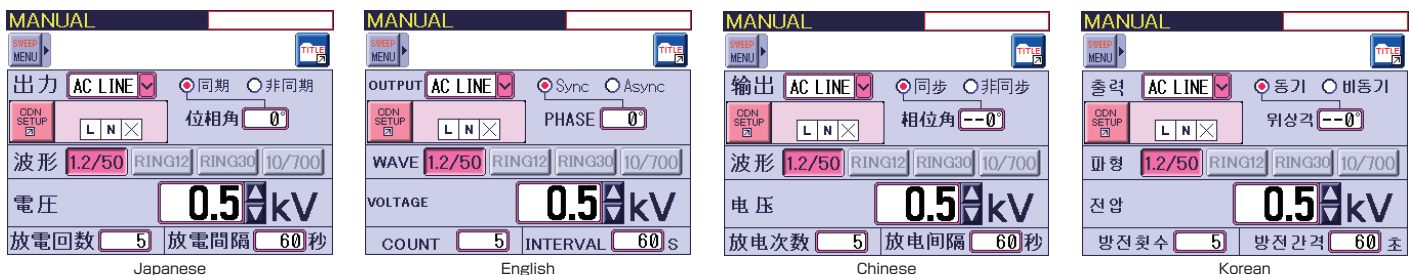
PC control software simplifies overall test processes

It is so easy to set complicate test sequences of various test types, save test results & records and generate test reports.



Multilingual localization provides easy test condition setting

Multilingual touch panel display supports easy and sure test setting. Languages in English, Chinese, Korean and Japanese.

Lightning Surge
LSS

Specification

■ Surge generator unit LSS-6330-A20 / -B63 both applicable

Item/Parameter	Specification		Note
Surge Waveform	1.2/50 μ s - 8/20 μ s combination 10/700 μ s - 5/320 μ s combination RING WAVE		
1.2/50 μ s - 8/20 μ s combination	Open voltage	0.5 kV \sim 6.7 kV \pm 10%	Coupling circuit : 18 μ F Cable length : One side 0.5 m Line input side open
	Front time	1.2 μ s \pm 30%	
	Time to half-value	50 μ s \pm 20%	
	Short-circuited current	250 A \sim 3350 A \pm 10%	
	Front time	8 μ s \pm 20%	
	Time to half-value	20 μ s \pm 20%	
10/700 μ s - 5/320 μ s combination	Open voltage	0.5kV \sim 6.7kV \pm 10%	Cable length : One side 0.5 m
	Front time	10 μ s \pm 30%	
	Time to half-value	700 μ s \pm 20%	
	Short-circuited current	12.5 A \sim 167.5 A \pm 10%	
	Front time	5 μ s \pm 20%	
	Time to half-value	320 μ s \pm 20%	
RING WAVE	Open voltage	0.25 kV \sim 6.6 kV \pm 10%	Cable length : One side 0.5 m
	Front time	0.5 μ s \pm 30%	
	Frequency	100kHz \pm 10%	
	Waveform envelop	Pk2 = 40% < Pk1 < 110% Pk3 = 40% < Pk2 < 80% Pk4 = 40% < Pk3 < 80%	
	Short-circuited current	8.3 \sim 550 A \pm 10%	
	Front time	0.2 \sim 1 μ s	
Polarity	+ / -		
Output impedance	2 Ω \pm 10%		1.2/50 μ s waveform
	40 Ω \pm 10%		10/700 μ s waveform
	12 Ω \pm 20%、30 Ω \pm 20%		RING (selectable)

LSS-6330 series

Item/Parameter	Specification	Note
Surge generation circuit	Floating	
Minimum charging time	0.0 kV ~ 4.0 kV : 5 sec 4.1 kV ~ 6.7 kV : 10 sec	1.2/50 μ s Surge Waveform
	0.0 kV ~ 4.0 kV : 10 sec 4.1 kV ~ 6.7 kV : 15 sec	10/700 μ s Surge Waveform
	0.0 kV ~ 6.6 kV : 1 sec	RING WAVE
		Option
Communication fuction	RS-232C (Optical connector), Bluetooth	
	External CDN control	
Emergency stop	Push-lock(Test STOP, High voltage OFF, EUT switch SHUT OFF)	
Interlock function	External connection status detection	
Emergency lamp	Red LED blinking after start the tests	
Emergency lamp connector	Equiped with emergency lamp connectors. Lamp blinking after start the tests.	3 ports
EUT Fail	3 ports	
Voltage monitor	BNC output, 2000 V/V \pm 10% Accuracy : \pm 10% vs. actual output	When output is open, no waveform prescription
Current monitor	BNC output, 1000 A/V \pm 10% Accuracy : \pm 10% vs. actual output	When output is short-circuited, no waveform prescription
Phase angle control	0° ~ 360° \pm 10°	EUT power AC90V Min. 50/60 Hz \pm 10%
Trigger input	asynchronous , synchronized to AC line 0° ~ 360° / 1° step, external input	
Power supply	AC 100 V ~ AC 240 V \pm 10% 50 Hz / 60 Hz \pm 10%	
Operational environment	Humidity : 15 ~ 35°C	
	Temperature : 25 ~ 75 % RH	
Dimensions / Weight	(W)430 × (H)371 × (D)530 mm / approx. 55 kg	

■ AC / DC Line Injection Part LSS-6330-A20

Item/Parameter	Specification	Note
Surge Waveform	1.2/50 μ s - 8/20 μ s combination, RING WAVE	
1.2/50 μ s - 8/20 μ s combination	Open voltage	0.5 kV ~ 6.7 kV \pm 10%
	Front time	1.2 μ s \pm 30%
	Time to half-value	50 μ s \pm 20%
	Short-circuited current	250 A ~ 3350 A \pm 10%
	Front time	8 μ s \pm 20%
	Time to half-value	20 μ s \pm 20%
	Open voltage	0.5 kV ~ 6.7 kV \pm 10%
	Front time	1.2 μ s \pm 30%
	Time to half-value	50 μ s + 10 μ s / -25 μ s
	Short-circuited current	41.6 A ~ 558 A \pm 10%
	Front time	2.5 μ s \pm 30%
	Time to half-value	25 μ s \pm 30%
RING WAVE	Open voltage	0.25 kV ~ 6.6 kV \pm 10%
	Front time	0.5 μ s \pm 30%
	Frequency	100 kHz \pm 10%
	Waveform envelop	Pk2 = 40% < Pk1 < 110% Pk3 = 40% < Pk2 < 80% Pk4 = 40% < Pk3 < 80%
	Short-circuited current	8.3 ~ 550 A \pm 10%
	Front time	0.2 ~ 1 μ s
Power Capacity for EUT line	AC 240 V / 20 A MAX 50/60 Hz, DC 125 V / 20 A MAX	
Decoupling coil	1.5 mH	
Voltage dip	Less than 10% of the rated voltage when the rated current is energized	Trough AC line injection part terminal
Residual voltage	Less than 15% of the injected voltage or less than double of the rated voltage (peak value)	

LSS-6330 series

■ AC / DC Line Injection Part LSS-6330-B63

Item/Parameter	Specification	Note
Surge Waveform	1.2/50 μ s-8/20 μ s combination、RING WAVE	
1.2/50 μ s - 8/20 μ s combination	Open voltage	0.5 kV \sim 6.7 kV \pm 10%
	Front time	1.2 μ s \pm 30%
	Time to half-value	50 μ s \pm 20%
	Short-circuited current	250 A \sim 3350 A \pm 10%
	Front time	8 μ s \pm 20%
	Time to half-value	20 μ s \pm 20%
	Open voltage	0.5 kV \sim 6.7 kV \pm 10%
	Front time	1.2 μ s \pm 30%
	Time to half-value	50 μ s + 10 μ s / -25 μ s
	Short-circuited current	41.6A \sim 558A \pm 10%
	Front time	2.5 μ s \pm 30%
	Time to half-value	25 μ s \pm 30%
RING WAVE	Open voltage	0.25 kV \sim 6.6 kV \pm 10%
	Front time	0.5 μ s \pm 30%
	Frequency	100 kHz \pm 10%
	Waveform envelop	Pk2 = 40% < Pk1 < 110% Pk3 = 40% < Pk2 < 80% Pk4 = 40% < Pk3 < 80%
	Short-circuited current	8.3 \sim 550 A \pm 10%
	Front time	0.2 \sim 1 μ s
Power Capacity for EUT line	AC 690 V / 63 A MAX 50/60Hz、DC 125 V / 63 A MAX	
Decoupling coil	1.5 mH	
Voltage dip	Less than 10% of the rated voltage when the rated current is energized	At the output terminal of the AC superposition section
Residual voltage	Less than 15% of the injected voltage or less than double of the rated voltage (peak value)	
Phase angle control	0° \sim 360° \pm 10° Operates at EUT power supply AC 90 V min. & 50/60 Hz \pm 10%	
Power supply	AC 100 V \sim AC 240 V \pm 10% 50/60 Hz \pm 10%	
Operational environment	Humidity : 15 \sim 35°C Temperature : 25 \sim 75% RH	
Dimensions	(W)430 \times (H)695 \times (D)686 mm	

■ Standard accessories(LSS-6330-A20)

Items	Quantity	Note
AC cable	1 pc	
PE cable	1 pc	round solderless tip - round solderless terminal
Surge output cable (HOT・COM)	1 pc each (totally 2 pcs)	multi-contact: plug - round solderless terminal
Waveform verification cable (Surge output)	1 pc	multi-contact: plug - multi-contact: plug (for pre-check)
Waveform verification cable (CDN output)	1 pc	multi-contact: plug - multi-contact: plug (for pre-check)
Line input cable (05-00162A)	3 pcs	multi-contact: plug - bar solderless terminal、Single wire
Line output cable	3 pcs	multi-contact: plug - round solderless terminal
Interlock connector	1 pc	
BNC cable for monitor	1 pc	
Accessory bag	1 pc	
Instruction manual	1 volume	

■ Standard accessories(LSS-6330-B63)

Items	Quantity	Note
AC cable	1 pc	
PE cable	1 pc	round solderless tip - round solderless terminal
Surge output cable (HOT・COM)	1 pc each (totally 2 pcs)	multi-contact: plug - round solderless terminal
Waveform verification cable (Surge output)	1 pc	multi-contact: plug - multi-contact: plug (for pre-check)
Waveform verification cable (CDN output)	1 pc	multi-contact: plug - multi-contact: plug (for pre-check)
Line input cable (05-00163A)	5 pcs	multi-contact: plug - bar solderless terminal、Single wire
Line output cable	5 pcs	multi-contact: plug - round solderless terminal
CDN connection cable (HOT・COM)	1 pc each (totally 2 pcs)	
Connection cable between CDN and PE on main unit	1 pc	
CDN control cable	1 pc	
Interlock connector	1 pc	
BNC cable for monitor	1 pc	
Accessory bag	1 pc	
Instruction manual	1 volume	

LSS-6330 series

Front panel

