

**NoiseKen**

NOISE LABORATORY

ESD Simulator  
ESS-S3011  
ESS-B3011  
GT-30R



## ESD Simulator

# ESS-S3011 & GT-30R

## Smart model equipped high function & extendibility

EMC test equipment to evaluate the resistibility of electronic equipments when energy charged on a human body or object is charged to the electronic equipments.

This can be available for evaluating malfunctions or functions declines of electronic equipments which are driven by AC/DC against the ESD. Programmable simulator to ease some complicated tests. The output voltage is up to 30kV and performable IEC61000-4-2 & ISO 10605 Standards compliant tests.

- “3 pre-checking function” to make sure the more confirmable test
- “CR constant indicator” to make sure the correct unit attachment
- One-touch exchange of gun head and CR unit realized
- “Ten-key & Rotary knob” to ease the setting.
- “Infra-red Remote Controller” to realize the setting remotely from the generator (Standard attached).
- “Discharge Detecting Function” to realize the air-discharge confirmation.
- “Lightest discharge gun in the market” to lighten the continuous operation (Excluding the cable and connector)
- “White LED Irradiator” to facilitate the visualization of the discharging areas.
- “Control Software” to enable the test result reporting and control with PC.

\* The software is scheduled to be downloaded freely from our web-site (The connection cable is necessary in addition).

\* C (Capacitor) and R (Resistor) for the discharge gun is one-body unit.

\* ISO 10605 compliant test can be realized with the optional parts in addition.



### Feature

## ● More insurable test realized ! “3 pre-checking function” built-in



[Check 1] Check high voltage output  
Confirm error to the set value.

[Check 2] Check withstanding voltage  
Confirm whether withstanding voltage is normal or defective

The output and defectiveness are checked upon insertion of the discharge gun to the attached gun holder.

[Check 3] Check discharge relay operation  
Confirm whether the relay is exhausted or still available.

Confirmable by touch of the discharge gun to the check terminal on the generator and discharge.



Photo of the operation

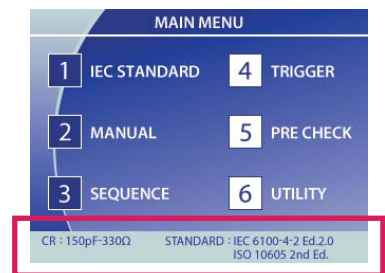
## ● “CR constant indicator” to make sure the correct unit attachment.



Whether the gun head corresponds to IEC or ISO ?



What values are the charge capacitor and discharge resistor ?



Indicated on the display of the generator

## ● More light and user-friendly discharge gun materialized

The discharge gun has been renewed completely to materialize much more lightning and best gravity balance.

Human load in the operation can be remarkably reduced comparing to the previous model. Please realize it on-hand actually.

Also, really discharge or not can be visualized with LED light on the body in this new discharge gun although the previous one has to be confirmed only with human eyes. In addition, various functions are added like one-touch exchange of CR unit, LED irradiator to shine the discharging points, etc.



LED irradiator built-in to shine the discharging points



One-touch exchangeable CR unit



Easily exchangeable gun head

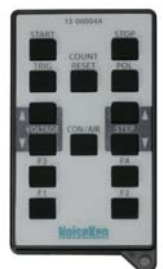
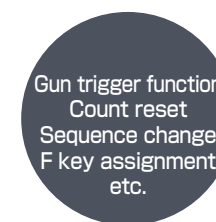
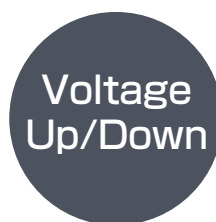


More light and comfortable handling



LED irradiator to visualize the discharge  
(Change the color from red to green upon the discharge)

## ● “Infra-red Remote Controller” standard attached to realize the setting remotely from the generator



Most of the operation can be controlled by the remote controller.

## Available to conform to ISO 10605 Standard with addition of the gun head and CR units.

Available to conform to ISO 10605 Standard by additional purchasing optional gun head and CR units.

Since exchange of the gun head and CR units can be one touched, the tests with varied CR constants can be realized easily.

### Options for ISO 10605 Standard compliant test



Model	名称
12-00009A	Discharge tip (GT-30R Spherical 30mm)
03-00072A	Gun head to GT-30R for constant 2kΩ test
06-00074A	CR unit (150pF - 2kΩ) to GT-30R
06-00076A	CR unit (330pF - 2kΩ) to GT-30R
06-00075A	CR unit (330pF - 330kΩ) to GT-30R



Gun head for constant 2kΩ test



CR unit

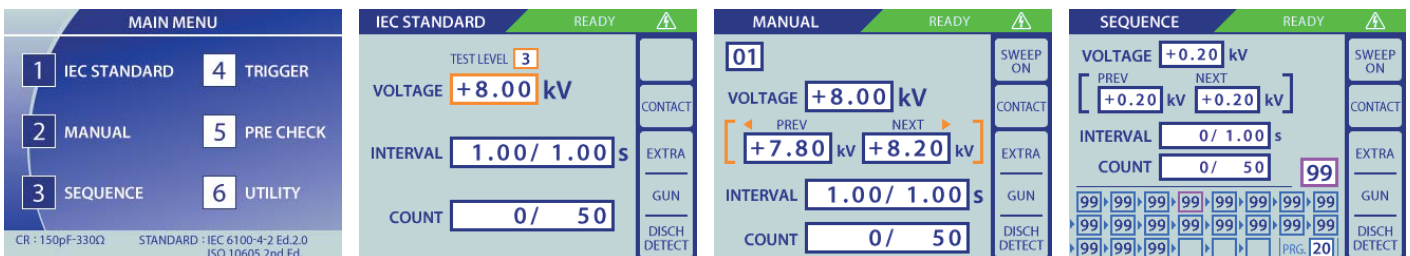


Discharge tip (Spherical 30mm)

## High visibility LCD panel and operatability

Reviewed the past operatability so that more easy and optimal operation can be realized.

In "1 IEC STANDARD" in MAIN MENU, since the test levels are preset, the test parameters can be set easily only with selection of the test level. In "2 MANUAL", voltage and number of times of the test can be selected and also the set conditions can be recorded. Sweeping discharges can be set as well. In "3 SEQUENCE", the set conditions in MANUAL can be recalled for combining them so as to realize the arbitrary sequential tests. In addition, varied functions like setting for gun trigger, automated ESD eliminator, etc. are equipped.



### Specification

Parameter	Specification	Parameter	Specification
Polarity	Positive / Negative	"IEC STANDARD" test mode	*Contact discharge mode : 2.0kV, 4.0kV, 6.0kV and 8.0kV step Air discharge mode : 2.0kV, 4.0kV, 8.0kV and 15.0kV step*
Output voltage	0.20kV~30.0kV±5% (30.5kVmax) 10.0kV : 0.01kV step 30.0kV : 0.1kV step	"MANUAL" test mode	*Contact / Air discharge mode, Arbitrary setting during 0.2kV~30.0kV Sweeping function built-in, Recordable up to 99 units*
Repetition cycle	0.05s~99.9s±10% / Manual Set step : 0.05s (0.05~10.0s), 0.10s (10.0~99.9s)	"SEQUENCE" test mode	*Enables to operate units set in MANUAL mode continuously. Max. 22 steps / 1 program and the programs recordable up to 20.*
No. of time of discharge	1~60,000 times, Preset 1 time step or continuous preset	Warning lamp	Lighting at voltage output from the generator. Blinking at electro-static discharging
Discharge mode	Contact discharge / Air discharge	Charge capacitor / resistor	150pF±10%, 330Ω±10% (Built-in CR unit for discharge gun GT-30R)
Radiation level mode	NORMAL mode / EXTRA mode	Charge resistor in generator	10MΩ (Totally 53Ω in combination with 43MΩ in discharge gun)*
Trigger mode	Gun trigger / Main trigger / External trigger	AUX connector	D-SUB 15pins female connector (for connecting to patolight, automated ESD eliminator, external interlock input, external trigger input terminal)
Operation panel	Color LCD / Push-buttons (Partially lighting)	Optical communication connector	Optical connector (serial interface) for connecting to PC
Gun holder	Standard attached (to hold the discharge gun Model GT-30R)	Power supply / consumption	AC100V~AC240V 50Hz/60Hz ±10% 75VA
Radiation mode select switch	Extra / Normal switching function built-in	Dimension	*Generator : (W)392mm X (H)312mm X (D)295.3mm (including gun holder) Discharge gun : (W)83.3mm X (H)217.2mm X (D)229.3mm*
Discharge detection	Discharge detection function in air-discharge equipped	Mass	Generator : Approx. 7.5kg Discharge gun : Approx. 800g (excluding cable and connector)
Pre-checking function	*Following 3 steps function equipped (by user operation. Not the calibration but just checking) STEP1: High voltage output checking STEP2: Withstanding voltage checking STEP3: Discharge relay operation checking*		
CR & Gun head checking	CR constant and gun head recognizable (with an indicator to prevent the wrong combination)		* The constant depends on combination with CR unit for the discharge gun

## ESD Simulator

# ESS-B3011 / L1611 & GT-30R

## Cost-oriented Basic models

Cost-oriented basic model ESD Simulator the light weight discharge gun attachable.

The output voltage can be selected either max. 30kV (B3011) or max. 16kV (L1611) and compliant to both EN/IEC61000-4-2 Standard (both B3011 and L1611) and ISO10605 Standard (only B3011).



- "Pre-checking function" taking the confirmable test into the account
- "CR constant checking function" (No indicator) to make the correct unit attachment sure"
- "Discharge Detecting Function" to realize the air-discharge confirmation.
- "Lightest Discharge Gun in the market" to lighten the continual operation"
- "White LED Irradiator" to facilitate the visualization of the discharging area.
- One-touch exchange of gun head and CR unit realized

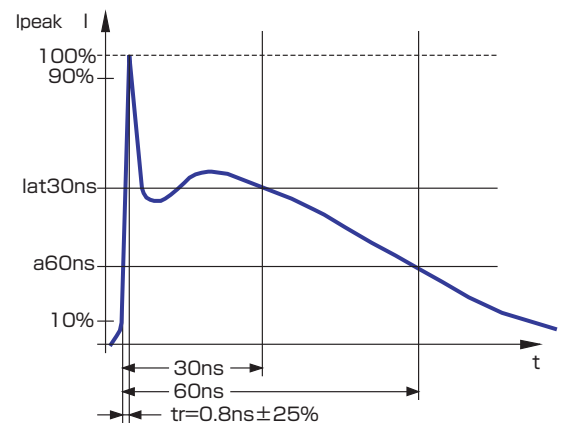
\* ISO 10605 compliant test performable with addition of the gun head and CR units (only with ESS-B3011)

### Specification

Parameter	Specification	
Moswl	ESS-B3011	ESS-L1611
Output voltage	0.20kV~30.0kV±5%(30.5kVmax)	0.20kV~16.5kV±5%(16kVmax)
Polarity	Positive / Negative	
Repetition cycle	0.05s~9.99s±10%, 0.01s step / Manual	
No. of time of discharge	1~999 times, Preset 1 time step or continuous preset	
Discharge mode	Contact discharge / Air discharge	
Trigger mode	Gun trigger / Main trigger	
Operation panel	Indicator : 5X7 Dot matrix LED / Operation : Push buttons (Partially lighting)	
Radiation mode select switch	Extra / Normal switching function built-in	
Discharge detection	Discharge detection function in air-discharge equipped.	
Pre-checking function	High voltage output checking function (by user operation. Not the calibration but just checking)	
CR & Gun head checking	CR constant and gun head recognizable (to prevent the wrong combination without indicator)	
IEC LEVEL Switching function	*Contact discharge mode : 2.0kV, 4.0kV, 6.0kV and 8.0kV step Air discharge mode : 2.0kV, 4.0kV, 8.0kV and 15.0kV step*	
Warning lamp	Lighting at voltage output from the generator. Blinking at electro-static discharging	
Charge capacitor / resistor	150pF±10%, 330Ω±10% (Built-in CR unit for discharge gun GT-30R)	
Charge resistor in generator	10MΩ(Totally 53Ω in combination with 43MΩ in discharge gun)*	
Power supply / consumption	AC100V~AC240V ±10% 50Hz/60Hz 62VA	
Dimension	*Generator : (W)270mm X (H)263mm X (D)200mm Discharge gun : (W)83.3mm X (H)217.2mm X (D)229.3mm*	
Mass	Generator : Approx. 4.8kg Discharge gun : Approx. 800g (excluding cable and connector)	

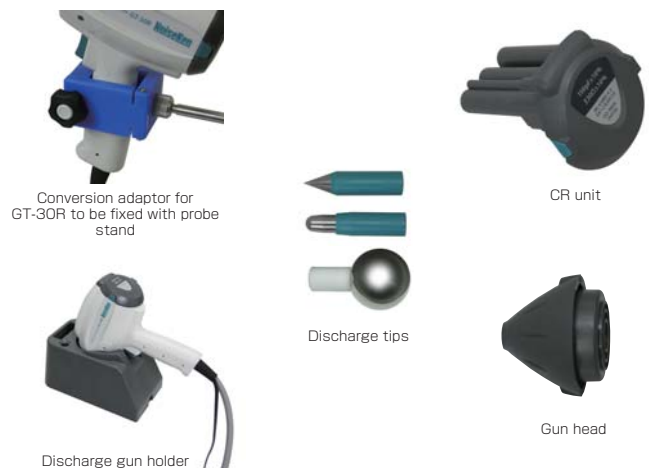
\* Remote control function not built-in. \* The constant depends on combination with CR unit for the discharge gun

### Discharge output waveform (IEC Standard)



## Option

Model	Description	Release	Model	Description	Release
06-00073A	CR unit (150pF - 330Ω) for GT-30R	TBD	03-00039A	Test table	On sale
06-00074A	CR unit (150pF - 2kΩ) for GT-30R	TBD	03-00004A	Insulation sheet	On sale
06-00075A	CR unit (330pF - 330kΩ) for GT-30R	TBD	03-00005A	Vertical coupling plate (with pedestal)	On sale
06-00076A	CR unit (330pF - 2kΩ) for GT-30R	TBD	03-00007A	Ground reference plane (3 pcs. to be one set)	On sale
06-00077A	CR unit (500pF - 0Ω) for GT-30R	TBD	03-00020A	Horizontal coupling plate (Aluminum)	On sale
06-00078A	CR unit (150pF - 500Ω) for GT-30R	TBD	05-00054B	Discharge resistance cable	On sale
06-00079A	CR unit (100pF - 1.5kΩ) for GT-30R	TBD	03-00034A	Vertical coupling plate for floor-standing EUT	On sale
06-00080A	CR unit (200pF - 0Ω) for GT-30R	TBD	03-00024A	Insulating holder (1.2m X 1.2m)	On sale
03-00068A	Electric field adaptor for GT-30R	TBD	03-00051A	Charge protective mat	On sale
03-00069A	Magnetic field adaptor for GT-30R	TBD	01-00013A	Automated ESD eliminator	On sale
03-00070A	Magnetic field loop adaptor for GT-30R	TBD	03-00053A	Aluminum plate for test	On sale
03-00071A	Gun head for constant 330Ω test to GT-30R	TBD	03-00054A	Insulating block	On sale
03-00072A	Gun head for constant 2kΩ test to GT-30R	TBD	03-00066A	Insulating support	On sale
03-00073A	Fast rise time adaptor for GT-30R	TBD	03-00055A	Conductive mat for ISO 10605 compliant test	On sale
09-00006A	Carry case for GT-30R	TBD	05-00104A	GND cable for ISO 10605 compliant test	On sale
03-00074A	Conversion adaptor for GT-30R to be fixed with probe stand	TBD	03-00065A	Coupling plate for ISO 10605 Annex F compliant test	On sale
	Discharge gun holder	TBD	05-00125A	ESD elimination brush	On sale
	Extension cable 3m for discharge gun	TBD	05-00052A	AUX connector junction box	On sale
13-00004A	Infra-red remote controller for ESS-S3011	TBD	11-00014A	DSUB connector type warning lamp	On sale
12-00007A	Discharge tip (conical for GT-30R)	TBD	07-00022A	Optical USB module kit	On sale
12-00008A	Discharge tip (round for GT-30R)	TBD			
12-00009A	Discharge tip (spherical 30mm for GT-30R)	TBD			
03-00061B	Pedestal stand for discharge gun	TBD			
03-00052B	Load resistor mounting board (1.2m X 1.2m)	On sale			
03-00027A	Load resistor mounting board	On sale			
03-00060A	GND cable positioner	On sale			
06-00001A	ESD current target	On sale			
06-00067A	ESD current target	On sale			
06-00068A	ESD target calibration adaptor	On sale			
00-00010A	6dB attenuator	On sale			
00-00011A	20dB attenuator	On sale			
02-00132A	High frequency responsible coaxial cable	On sale			
02-00133A	Conversion connector (BNC-SMA)	On sale			



\* The designs, specifications and products themselves herein are subject to be changed without notice.