

## SESD 230

### ESD-Simulator 30 kV

#### IEC / EN 61000-4-2

- 30 kV Air- and Contact discharge
- Discharge impedance 150 pF / 330 Ohm
- Contact control for contact discharge
- Counter mode with and without automatic polarity change

#### With self-test of the simulator

Saving of cost-intensive and time-consuming intermediate calibrations. Indispensable for automatic test procedures.



#### Overview

The ESD Simulator SESD 230 is suitable for performing EMC tests on systems in accordance with the standard IEC / EN 61000-4-2 (ESD test). Higher test levels can be set far beyond the standard limits. Depending on the test object and test setup, two test methods are to be used: **Air discharge and Contact discharge**. In air discharge the pulse is triggered by approaching the SESD 230 towards the DUT. With the method of contact discharge the test tip of the generator is placed directly on the test object.

**Important:** In the case of non-contacting (e.g. painted or oxidized surface), the impulses are not triggered. The display shows "No contact". This ensures that when triggering a discharge actually takes place. The contact discharge is the favourite test method since it is most reproducible. Air discharges are used when contact discharges are not possible e.g. at plastic housings.

#### Key Facts

- 2 test methods are to be used: **Air discharge and Contact discharge**
- Predefined standard test levels: Higher test levels can be set far beyond the standard limits
- Displaying of the real discharge voltage at air mode
- Programmable automatic test runs
- Large display with easy to read digits
- Battery and mains operation



## SESD 230

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#### Technical data I

SESD Simulator 230		SESD Simulator 230	
Output - voltage	adjustment via digital potentiometer	Holding time	≥ 5 sec
Test modes	air- and contact discharge	Pre selectable counter	1 - 9999
Air discharge	0,5 kV to 30 kV, 100 V steps	Discharge electrodes	in conformity to IEC / EN 61000-4-2
Contact discharge	0,5 kV to 30 kV, 100 V steps	Energy storage capacity	150 pF ± 10%
Polarity of the output voltage	positive and negative Special function: in "counter mode" optional polarity changeover after half of the set pulses	Discharge resistor	330 Ohm ± 5%
<b>Repetition frequency</b>		Operation temperature range	0 - 40° Celsius
Air discharge	single pulse or repeated (frequency depends on the distance between the discharge electrodes and the EUT)	Relative humidity	0 - 60%
Contact discharge	single pulse, 0,1 Hz, 0,2 Hz, 1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz	Weight	app. 1470 g
Continuous operation	possible at air- and contact discharge		

#### Technical data II

SESD Simulator 230 Power Supply			
Power Supply	IN: 100-240 VAC/47-63 Hz; OUT: 9 VDC / 3 A	Weight	app. 200 g

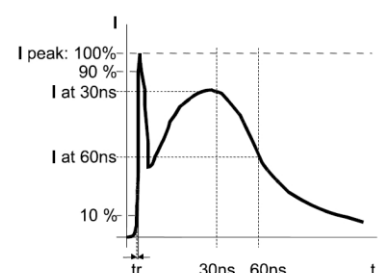
#### Technical data III

#### Voltage values for test methods

##### Test level

Level	Voltage air discharge	Voltage contact discharge.
1	2 kV	2 kV
2	4 kV	4 kV
3	8 kV	6 kV
4	15 kV	8 kV
x	max. 30 kV	max. 30 kV

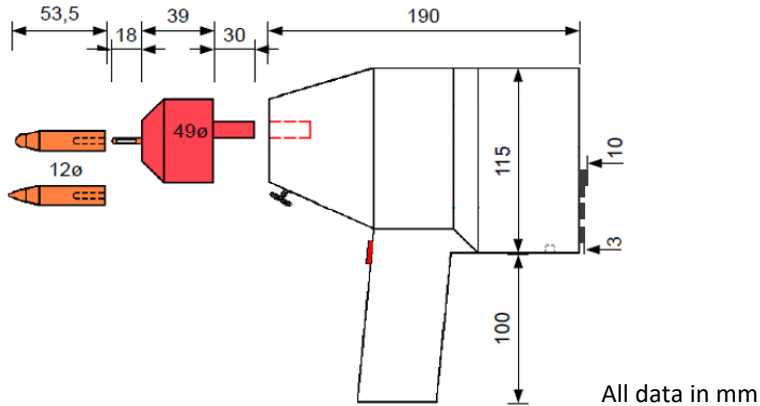
##### Typ. shape of the discharge current



# SESD 230

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## Technical data IV



## Standard definition acc. IEC / EN 61000-4-2

Test-Level	Test voltage contact discharge	Rise time ( $\pm 25\%$ )	1. Peak current ( $\pm 15\%$ )	Current after 30 ns ( $\pm 30\%$ )	Current after 60 ns ( $\pm 30\%$ )
1	2 kV	0,8 ns	7,5 A	4 A	2 A
2	4 kV	0,8 ns	15,0 A	8 A	4 A
3	6 kV	0,8 ns	22,5 A	12 A	6 A
4	8 kV	0,8 ns	30,0 A	16 A	8 A
X	30 kV	0,8 ns	112,5 A	60 A	30 A

## Scope of supply of SESD 230

- ESD simulator SESD 230
- Battery charger incl. cable
- Standard discharge electrodes for air discharge (SESD 3020)
- Standard discharge electrodes for contact discharge (SESD 3021)
- Weight (with content): approx. 3,4 kg
- Ground cable (SESD 231)
- Manual



## SESD 230

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Options	
SESD 3025	Test tip, length 50 mm, for air contact
SESD 3026	Test tip, length 50 mm with spring pin, for contact discharge
SESD 3027	Test tip, length 70 mm with spring pin, for contact discharge
SESD 3036	Hook on the generator for hanging on a balancer
SESD 231	Discharge return cable
SESD 270	HCP – Horizontal coupling plane, ground reference plane
SESD 271	VCP – vertical coupling plane, include earth cable SESD 272
SESD 272	Earth cable include 2 x 470 kOhm resistor, 2 m long
SESD 280/281	Silicon sheet 0,5 mm / 3 mm (IEC/EN 61000-4-2 / ISO 10605 )
SESD 30 T 1000	Support arm with balancer
SESD 8800-4	ESD verification set 2 Ohm (4 GHz) to verify the ESD pulse
SESD 30 S120	Remote control software and optical fiber set

All information regarding appearance and technical data correspond to the current state of development at the time of release of this data sheet. We reserve the right to make technical changes. 242203

