

SESD 216

ESD simulator 16,5 kV

- IEC 61000-4-2 (150 pF / 330 Ohm)
- Battery or mains operation
- 16,5 kV AIR / 10 kV CONTACT discharge
- Programmable automatic test runs
- Predefined test levels acc. to the standard
- Contact control for contact discharge
- Displaying of the real discharge voltage at air mode
- Counter mode with and without automatic polarity change



The ESD Simulator SESD 216 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:

1. Air discharge

In this case, the pulse is triggered by approaching the SESD 216 towards the DUT. The high voltage applied to the discharge electrode is discharged suddenly, resulting in a very broadband high-frequency interference spectrum. This in turn can lead to influences on the test specimens.

2. Contact discharge

With this method, the probe of the generator is placed directly on the test object. The actual "impulse triggering" takes place via a relay contact and reduces the influencing factors such as approach speed, amplitude height, air humidity and temperature.

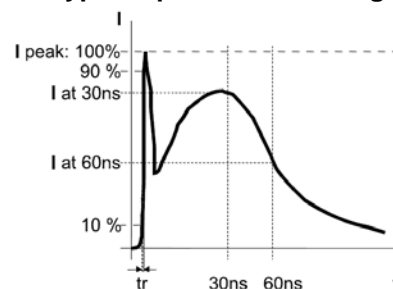
Important: In the case of non-contacting (eg painted or oxidized surface), the impulses are not triggered. The display shows "No contact". This ensures that when triggering a discharge actually takes place.

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. The test voltages defined for each test method are shown in the table below:

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. 16,5 kV	max. 10 kV

Typ. shape of the discharge current



SESD 216 carrying case includes (3,2 kg):

- ESD simulator SESD 216
- Battery charger incl. cable
- Discharge electrodes for air discharge (SESD 3020) and contact discharge (SESD 3021)
- Ground cable (SESD 231)
- Manual



Technical data

Generator:

Output voltage, adjustment via digital potentiometer:

Test mode air discharge 0,2 kV to 16,5 kV, 100V steps
 Test mode contact discharge 0,2 kV to 10,0 kV, 100V steps
 Polarity of the output voltage positive and negative
 Test modes air- and contact discharge

Repetition frequency of the discharge pulses:

Air discharge single pulse or repeated *
*(frequency depends on the distance between the discharge electrodes and the examinant)
 Contact discharge single pulse, 0,1 Hz, 0,2 Hz, 1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz
 Continuous operation possible at air- and contact discharge
 Holding time ≥ 5 sec
 Pre selectable counter 1 - 9999
 Discharge electrodes in conformity to IEC / EN 61000-4-2
 Energy storage capacity 150 pF $\pm 10\%$
 Discharge resistor 330 Ohm $\pm 5\%$
 Operation temperature range 0 - 40° Celsius
 Relative humidity 0 - 60%
 Weight app. 1260 g

Power supply:

Supply voltage IN: 100-240 VAC / 47-63 Hz; OUT: 9 VAC / 3 A Weight: app 200 g

Options:

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 30 T 1000 Support arm with balancer
 SESD 271 VCP – vertical coupling plate, include earth cable SESD 272
 SESD 272 Earth cable include 2 x 470 kohm resistor, 2m long
 SESD 8800-4 ESD verification set 2 Ohm (4 GHz) to verify the ESD pulse
 SESD 30 S100 Remote control software and optical fiber set

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