

ESD 300 kV Generator

The system is designed to perform electrostatic discharge tests up to 300 kV according to MIL-STD 331 (helicopter-borne ESD), NATO AECTP 250, AECTP 500, etc. It consists of a high voltage DC power supply, a special capacitor, a control unit driven by a PC-based software and an orientable moving electrode which is actuated pneumatically by the control unit. The electrode can be placed toward the tested aircraft in many orientations in order to reach the spot to stress. The system enables the following tests:

- a. Discharge between a charged electrode and a grounded EUT
- b. Discharge between a charged EUT and a grounded electrode
- c. High voltage corona test, also referred to as "precipitation-static"



SPECIFICATIONS

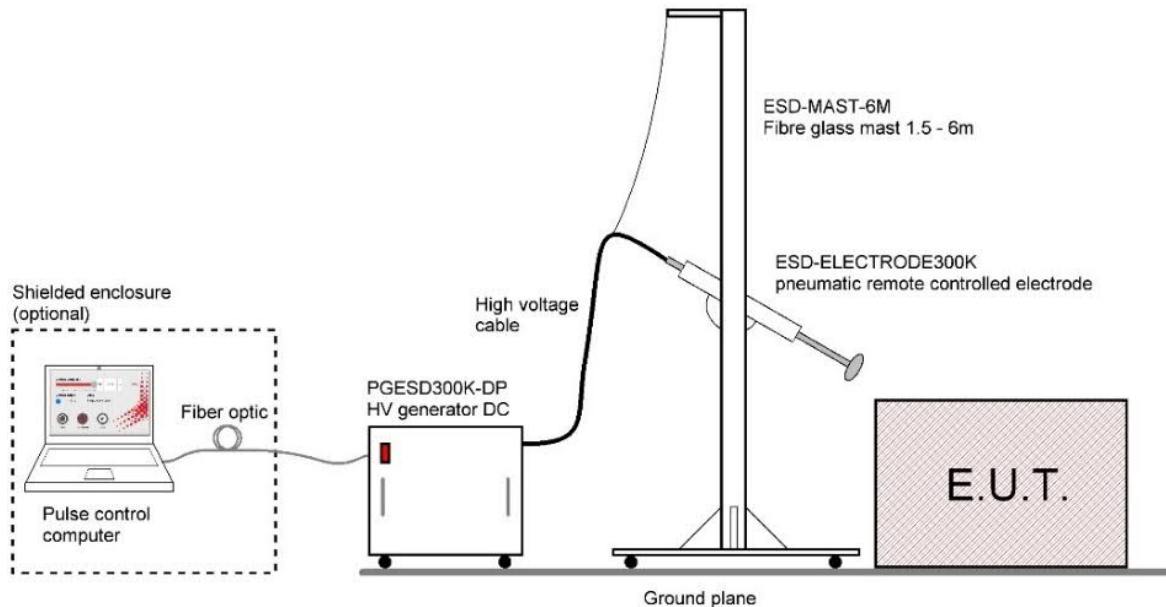
Type	PGESD300K-DP
Standards	MIL-STD 331 C/D, Fuse and fuse components environmental and perf. test: appendix F NATO STANAG 4235, superseded by AECTP 250 leaflet 253 NATO STANAG 4239, superseded by AECTP 500 leaflet 508 MIL-STD 464, DEF STAN 59-411 Part 2, etc.
Nominal charging voltage	300 kV \pm 1 % , reversible polarity
Voltage range	\pm 15 to 300 kV
Maximum charging current	12.5 mA
Capacitor	1 nF \pm 5 %
Output impedance	< 1 Ω
Total inductance	about 7.5 μ H
Short circuit current	about 1.8 kA (with a ground return wire of 3.5 m)
Electrode height adjustment	0.5 - 2 m or 1.5 - 6 m
Electrode tip travel distance	1.0 m
Remote control	PC-based pulse control software or manual control
Control interface	Fiber optic USB
Power rating <i>to be specified at ordering, either:</i>	3 x 400 VAC / 4 kW peak / 50 - 60 Hz or 3 x 220 VAC / 4 kW peak / 50 - 60 Hz
Storage / working temperature	5 - 50 $^{\circ}$ C / 15 - 45 $^{\circ}$ C
Dimensions (L x H x W)	generator unit: 225 x 188 x 150 cm 6 m mast chassis: 250 x 615 x 150 cm
Weight (generator / 6 m mast)	245 kg / 600 kg

Example of test setup

Charged electrode and grounded EUT

The ESD is generated by charging up an electrode to the specification voltage, and then discharging the electrode to grounded EUT.

The discharge current pulse is monitored by an embedded oscilloscope. A computer running Montena Pulse Control software controls the HV generator through a fibre optic transmission, that allows to electrically isolate the operator from the test setup.



Ordering information

TYPE	DESCRIPTION
PGESD300K-DP	ESD Pulse generator for MIL-STD 331 C/D, maximum charging voltage: +/-300 kV
ESD-ELECTRODE300K	Pneumatic remote-controlled discharge electrode
ESD-MAST-6M	Movable mast on wheels, for ESD-Electrode 300K, 1.5 - 6 m adjustable height
ESD-MAST-2M	Movable stand on wheels, for ESD-Electrode 300K, 0.5 - 2 m adjustable height

Related products / accessories

TYPE	DESCRIPTION
FT300K	Wall feedthrough for up to 300 kV, for an indoor-outdoor installation of the test setup
ESDR500-300K	300 kV 500 ohm serial resistor to be installed on the PGESD300K-DP generator for NATO STANAG 4235 test
ESDR250M	250 Mohm serial resistor for MIL-STD 331D HVC test
SB3G	Shielded enclosure, 10 kHz to 3 GHz, 61 x 52 x 73 cm