ESD 300 kV Generator

The system is designed to perform electrostatic discharge tests up to 300 kV in accordance with the 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 web-based software and an orientable moving electrode which is actuated pneumatically by the control unit. The electrode can be placed toward the equipment under test in many orientations 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 test: appendix F NATO STANAG 4235, superseded by AECTP 250 leaflet 253 NATO STANAG 4239, superseded by AECTP 500 leaflet 508 MIL-STD 464, JOTP-062, DEF STAN 59-411 Part 2, etc.
Nominal charging voltage	300 kV ± 5 %
Voltage range	15 to 300 kV, reversible polarity
Maximum charging current	20 mA
Capacitor	1 nF ± 10 %
Output impedance	< 1 Ω
Total inductance	about 7.5 µH
Short circuit current	> 2 kA (with a ground return wire of 3.5 m)
Electrode height adjustment	0.5 - 2 m (with 2m-mast) or 1.5 – 6 m (with 6m-mast)
Electrode tip travel distance	1.0 m
Protection	automatic current regulation protection reduces output voltage as required for all arc, overload and short circuit conditions
Remote control	web-based application or manual control
Control interface	USB optical extender
Power rating	3-phase 400 VAC ± 10 % / 16 A Option: 3-phase 208 VAC ± 10 % / 20 A 48 - 63 Hz / 6 kW peak
Storage / working temperature	5 - 45 °C / 15 - 40 °C
Air compressor requirement	minimum 20 litre / 6 Bar
Dimensions (W x L x H) / weight	Generator unit: 155 x 250 x 195 cm / 223 kg 2 m mast & stand: 134 x 160 x 210 cm / 111 kg 6 m mast & stand: 180 x 290 x 635 cm / 480 kg

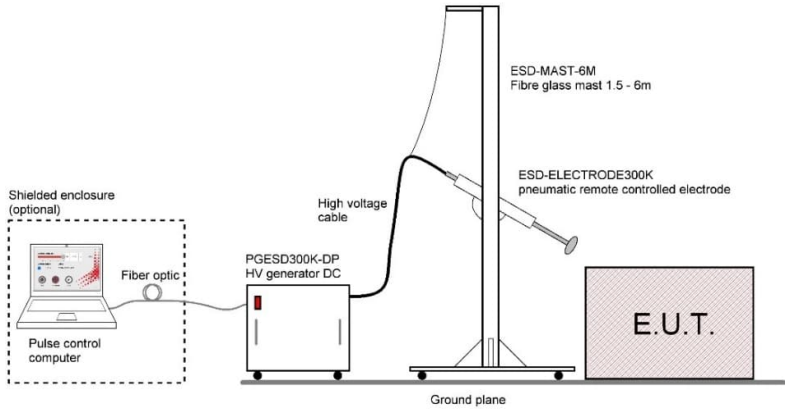
montena technology sa 1728 Rossens Switzerland www.montena.com

Example of test setup's

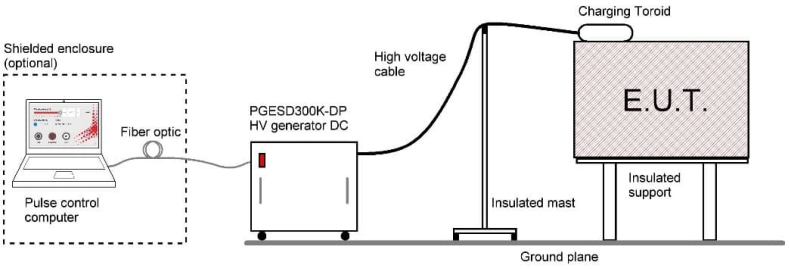
Charged electrode and grounded EUT

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 a web-based control application drives the high-voltage generator through a fibre optic link that electrically isolates the operator from the test setup.



High Voltage Corona test (charged EUT) for P-static test



Ordering information

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

Related products / accessories

TYPE	DESCRIPTION
ESDR100-300K	100 ohm 300 kV calibration test load
ESDR250M	250 Mohm serial resistor for MIL-STD 331D HVC test
ESDR500-300K	500 ohm 300 kV serial resistor to be installed on the PGESD300K-DP generator for NATO STANAG 4235 test
FT300K	Wall feedthrough 300 kV, for indoor-outdoor install of the test setup
SB3G	Shielded enclosure, 10 kHz to 3 GHz, 61 x 52 x 73 cm for the protection of extra measurement instruments