



NSG 437 ESD **HIGH PERFORMANCE WITH BASIC FEATURES**



The NSG 437 simulator is designed to sit comfortably in the operator's hand, with current operating conditions constantly displayed and clearly visible. The simulator is ergonomically designed to be held easily for long duration test procedures.

The touch panel display with its keypad for parameter settings shows the precise functional and test data at any moment. All essential functions and actual status are displayed, with user-selectable language for convenient and safe operation worldwide.

Pre-programmed settings for IEC/EN 61000-4-2 and ISO 10605 ensure that the simulator is automatically set up correctly. The menu with last settings automatically comes up again after shut-down of a test sequence.

Thanks to stabilized HV output the NSG 437 ESD simulator comprehensively fulfills virtually all international standard requirements. Based on over 20 optional discharge networks, the NSG 437 can also meet any of today's automotive manufacturers' standards.

NSG 437 generates pulses from 200 V to 30 kV, both in air- and contact-discharge operation. The simulator is simple, convenient and safe to use. The whole range of parameter setting possibilities, including polarity selection, counter functions and breakdown detection, remains fully available up to the maximum discharge voltage.

The simulator contains a threshold detector to eliminate faulty discharge counts over its wide operating voltage range. Only valid HV discharges are indicated. When discharges are detected, the counter or preset counter is incremented or decremented respectively – a particularly useful feature for long test runs. The detection feature can be switched off when testing EUT's with non-conductive surfaces, such as plastic housings.

A wide range of discharge networks and tips fulfills the high demand for different test applications and can be exchanged. Completed by a wide selection of rigid and flexible discharge tips, any application is possible. Molded HV discharge networks in solid cases eliminate internally ionization and leakage current effects. Selected combinations of RC components guarantee wave shape parameters to be within tolerances. Discharge network modules with resistance values from zero ohms combined with capacitances up to the nF-range can be simply pushed into place.

Automatic self-calibration of the NSG 437 simulator is performed at every start-up. This procedure runs up to max. voltage in either polarity, thus giving confidence, that test levels are maintained within tolerances.



- **Air- and contact-discharge up to 30 kV**
- **Light version featuring uncompromised test performance**
- **Compliant with a wide range of standards (IEC, ANSI, SAE, ISO)**
- **Touch panel display controls**
- **Easily and quickly interchangeable network modules**
- **Wide range of accessories (HV networks, tips, adapters)**

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Technical specifications

Description:	Compact ESD simulator with microprocessor based, large touch-sensitive LCD panel, built-in HV relay for contact-discharge, mains operation
Basics:	Discharge pistol, high voltage base unit, mains power supply adapter, (100 to 250 VAC), discharge network 150 pF/330 Ω, air- and contact-discharge tips, grounding cable, user manual
Pulse data:	Standard: Conforms to IEC/EN 61000-4-2 (2001) Special: Interchangeable networks for other standards
Pulse networks:	Network 150 pF/330 Ω as per IEC/EN 61000-4-2 (included) Optional ISO 10605 networks 150 pF/2 kΩ and 330 pF/2 kΩ Range of RC-networks for other standards: R = 0 Ω to 20 kΩ C = 50 pF to 2000 pF
Discharge:	Air-discharge: 200 V to 30 kV (in 100 V steps) Contact-discharge: 200 V to 30 kV (in 100 V steps)
Discharge tips:	Ball and point as per IEC and specials; exchangeable by threaded cap
Charging voltage measurement:	kV, accuracy better than ± 5% (stabilized)
Discharge detection:	Air-discharge only: indicated by the kV symbol being displayed in inverse, also acoustically in the single's operating mode. Threshold level on/off.
Holding time:	> 5 s (charging voltage ±5%)
Charge resistor:	50 MΩ
Triggering:	Trigger button in hand-grip
Operation:	Via touch panel and microprocessor
Discharge modes:	Air-discharge/contact-discharge
Polarity:	Positive, negative/automatic change
Operating modes:	Single/repetitive; Pulse counter 0 to 9999; Pre-select counter 0 to 9999; Repetition: - 0.5/1/5/10/20 or 25 Hz (air) - 0.5/1/5/10 or 20 Hz (contact) - Continuous operation
Auto-shut-off:	After 15 minutes idle time (without loss of the test parameters)
Display:	LCD panel showing: charging voltage, breakdown event, polarity, air-/contact-discharge, counter/preselect counter content
Weight:	Discharge pistol (w/o cable): 1.2 kg (2.6 lbs) approx. Base unit: 5.7 kg (12.6 lbs) approx.
Ambient conditions:	Operation: +5 to +40°C 20 to 80% r.h. (non-condensing) 68 to 106 kPa

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Delivery Information

INA 4381	Discharge network ISO 10605, 150 pF/2 k Ω
INA 4382	Discharge network ISO 10605, 330 pF/2 k Ω
INA 4383	Discharge network, ANSI C63.16, 150 pF/330 Ω
INA 4384	Discharge network, ANSI C63.16, 150 pF/75 Ω
xxxx	Special discharge networks, specify standard and/or values of R and C
INA 4411	Fast risetime test tip <400 ps
INA 4421	Tripod support
INA 4422	Carrying bag for the base unit
MD 101	ESD measurement target conforming to IEC 61000-4-2 (2001)
MD 103	ESD measurement target (ANSI and IEC draft)
INA 414	Ground cable with resistors (2 x 470 k Ω) - test bench: upon request
INA 4413	Discharge tip with 0.5 m flexible cable
INA 4414	Air-discharge ball
INA 4415	Flexible tip set
INA 4416	Soft touch contact tip
INA 4417	Banana socket contact tip
INA 4418	Banana socket fastrise time tip
INA 4419	E-field Adapter
INA 4420	H-field Adapter