NSG 438 HIGH END ESD SIMULATOR
OPTIMIZED FOR AUTOMOTIVE TESTING

- **Air- and contact-discharge up to 30 kV**
- **Compliant with a wide range of standards (IEC, ANSI, SAE, ISO)**
- **Built-in ISO self-calibration procedure**
- **Powered by high-energy battery pack**
- **Touch panel display controls**
- **Easily and quickly inter-changeable network modules**
- **Adjustable discharge detector**

Ergonomic design and advanced functionality. The pistol-shaped NSG 438 simulator is designed to sit comfortably in the operator's hand, with current operating conditions constantly displayed and clearly visible.

NSG 438 ESD simulator comprehensively fulfills virtually all international standard requirements and supports proposed future standards. Based on over 20 optional discharge networks, the NSG 438 can also meet any of today's automotive manufacturers' standards.

The simulator is simple, convenient and safe to use. The whole range of parameter setting possibilities, including polarity selection, freely adjustable pulse repetition, counter functions and breakdown detection, remains fully available up to the maximum discharge voltage.

The touch panel display with its virtual thumb wheel or keypad for parameter settings shows the precise functional and test data with user-selectable language for convenient and safe operation worldwide. The simulator contains variable threshold selection to enable accurate discharge detection. This detection feature can be switched off when testing EUT's with non-conductive surfaces, such as plastic housings. Pre-programmed settings for IEC/EN 61000-4-2 and ISO 10605 ensure that the simulator is automatically set up correctly and the appropriate discharge network is installed. The actual RC value is displayed at all times. Molded HV discharge networks in solid cases eliminate ionization and leakage current effects. Selected combinations of RC components guarantee wave shape parameters to be within tolerances.

An integral interlock system allows setting up accessibility and safety configurations even in combination with other test instruments. For extra safety and emergency an emergency stop switch is built in. With the built-in ISO calibration self-test feature considerable time can be saved by eliminating extra calibration and functional measurements before starting a test procedure as required by the ISO standard. More specific features are freely adjustable pulse repetition rate for R&D purpose, a special random generator function to cut down test times and an optional charge remover for discharging the EUT.

NSG 438 is packed in a convenient and stable carrying case with space for accessories.

TESEQ

Advanced Test Solutions for EMC

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Technical specifications

Basic set:	Carrying case with: discharge pistol, cradle for discharge pistol, high voltage base unit with built-in battery pack, mains adapter and battery charging unit (100 to 250 VAC), discharge network 150 pF/330 Ω, air- and contact-discharge tips, grounding cable, user manual, 25 mm discharge sphere
Pulse networks:	Network 150 pF/330 Ω as per IEC/EN 61000-4-2 (included) Optional ISO 10605 networks 330 pF/330Ω, 150 pF/2 kΩ and 330 pF/2 kΩ Range of RC networks for other standards: R = 0 Ω to 20 kΩ; C = 50 to 2000 pF
Discharge voltage:	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' operating mode. Adjustable threshold level.
Holding time:	> 5 s (charging voltage +5%)
Polarity:	Positive / negative / automatic change
Operating modes:	Single / repetitive / random (time/pulse) Pulse counter: 0 to 9999 Pre-select counter: 0 to 9999 Repetition: - 0.5/1/5/10/20, 25 Hz (air) - 0.5/1/5/10 H or 20 Hz (contact) - freely selectable from 0.04 to 300 s - continuous operation
Display:	LCD panel showing: charging voltage, breakdown event, polarity air- /contact-discharge, counter/preselect counter content, network parameters, battery monitor
Weight:	Discharge pistol (w/o cable): 1.2 kg (2.6 lbs) approx. Base unit: 6.5 kg (14.3 lbs) approx.
Ambient conditions:	Operation: +5 to +40°C, 20 to 80% r.h. (non-condensing), 68 to 106 kPa
Accessories:	The full accessory range such as discharge network special tip E- and H-field adapter and ESD measurement target can be found in the brochure.

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