L SPARK

ELECTROSTATIC SPARK SENSITIVITY TESTER

The L SPARK™ is the newest member of the family of instruments dedicated to the testing of ESD sensitivity of energetic materials. The L SPARK test instrument is designed for the testing of bare energetic materials (pyrotechnic compositions, primary and secondary explosives and propellants) in the granular bed form. The L SPARK is also capable of performing tests of the resistance of Electro-Explosive Devices (EED's) to ESD energy.

design by Jan ERMIS

For testing energetic substances the **L SPARK** employs the comparative method concept – the response of the tested material is compared with the reference material along with the known ESD behavior under the given discharge conditions. The **L SPARK** provides the user with basic information about the risk associated with the ESD event of the tested substance within the least time and at minimum costs. This principle of operation does not require any further energy evaluation or discharge diagnostics of the discharge.

APPLICATIONS

The **L SPARK** is suitable for applications where only a basic screening of the risk associated with granular energetic materials is required along with impact and friction sensitivity data. The **L SPARK**'s simple operation and low running costs allow for the testing of a large count of samples in a short period of time with minimal running costs. This feature makes the **L SPARK** ideally suited for production facilities (e.g. for periodic production tests, or for the quick assessments of new materials/components used in the manufacturing processes). Adoption of the EED´s testing capability makes the **L SPARK** a good choice for national notified bodies (testing/certification laboratories) or for manufactures of initiating devices such a igniters, squibs or detonators.

ADVANTAGES & FEATURES

- Compact design
- Low running costs
- Suitable for a quick basic screening of the risks associated with all types of granular explosives
- Optional available accessories expand the **L SPARK**'s capability for the testing of the ESD resistance of the Electro-Explosive Devices (detonators, igniters, squibs, etc.) according to the EN standardization
- External steel testing chamber (capacity up to 2-gram NEQ)
- The versatility of the spark gap geometry allows for the easy modification of the spark gap geometry

COMPLIANCE

- **EN 13763-13** Explosives for civil uses – Detonators and relays, Part 13: Determination of resistance of electric detonators against electrostatic discharge
- **EN 13763-21** Explosives for civil uses – Detonators and relays, Part 21: Determination of flash-over voltage of electric detonators
- **EN 16265** Pyrotechnic articles, Other pyrotechnic articles, Ignition devices: Test 6.3.19. for electric igniters
- **EN 13938-2** Explosives for civil uses – Propellants and rocket propellants, Part 2: Determination of resistance to electrostatic energy

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VER.1.0

Manually operated test stand

Capacitor selector switchboard

L SPARK™ vs. X SPARK 10™ Comparison of Technical Parameters

	L SPARK	X SPARK 10
Direct discharge energy evaluation	–	●
Automatic test stand function	–	●
ESD resistance of electro explosive devices	●	–
Static electrode test stand	●	●
Moving electrode test stand	–	●
Working voltage up to 10 kV	●	●
Set of external and built-in capacitors	●	●
Application of statistical testing procedures	–	●

● Supported – Not supported

Accessories

L SPARK™ vs. X SPARK 10™ Comparison of Applications

	L SPARK	X SPARK 10
Explosives, Propellants and Pyrotechnics	●	●
Explosive Devices (Explosive containing products, Electro Explosive Devices)	●	–
Research & Development	○	●
Service Qualification	●	●
Product Quality Control	●	○
In-service Surveillance	●	○
Storage & Transport Safety (Risk)	○	●
Ammunition Demilitarization	●	●

● Applicable ○ Limited use – Not supported

Resistor calibrating target

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