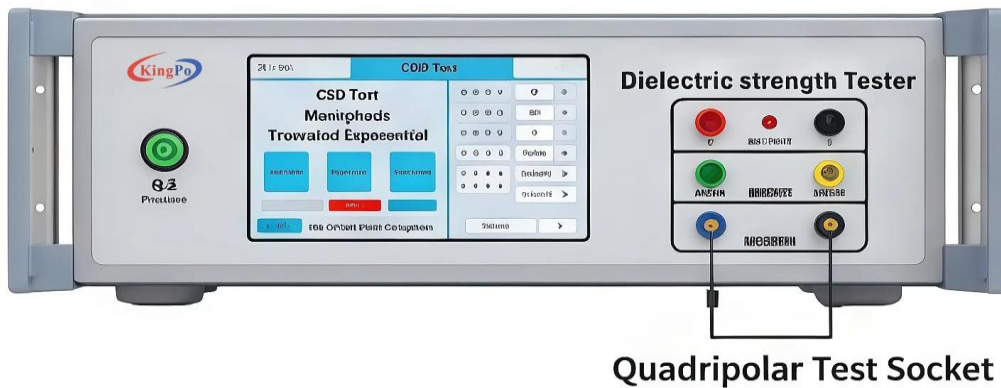


**KP-1230S Dielectric Strength Tester**



**Quadripolar Connector Defibrillation Waveform Tester | Compliance with ISO 27186:2020 Annex C**

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**1. Executive Summary**

The KingPo KP-1230S Dielectric Strength Tester is a specialized high-voltage diagnostic instrument engineered for the medical technology sector. It is specifically designed to generate precise monophasic truncated exponential (MTE) defibrillation waveforms. This system is the definitive solution for evaluating the dielectric integrity and reprogramming recovery capabilities of quadripolar connector systems used in active implantable cardiac rhythm management devices, ensuring strict adherence to ISO 27186:2020 Annex C and YY/T 0972-2016 Appendix C standards.

**2. Engineering Excellence & Safety Architecture**

The KP-1230S integrates advanced pulse-forming technology with rigorous safety protocols to meet the demands of high-stakes medical device testing:

- **Precision Waveform Synthesis:** Utilizes a dedicated high-voltage pulse generation circuit to deliver a controlled 1.4  $\mu$ s rise time and a 1.08 kV/ $\mu$ s voltage slew rate,

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accurately replicating clinical defibrillation shocks.

- **Dynamic Load Adaptability:** Engineered to maintain waveform accuracy across standard test loads that simulate human body impedance, specifically optimized for quadripolar connector interfaces.
- **Integrated Monitoring:** Features high-bandwidth monitoring circuits for real-time waveform capture, guaranteeing that every pulse meets the peak voltage and decay requirements specified by international regulations.
- **Multi-Layer Safety System:** Incorporates automatic high-voltage discharge circuits, emergency stop interlocks, and shielded enclosures to ensure maximum protection for both the operator and the sensitive Device Under Test (DUT).
- **Laboratory-Grade Build:** Housed in a compact, electromagnetically shielded desktop enclosure designed for seamless integration into R&D environments and certification test benches.

### 3. Technical Specifications

**Table 1: Defibrillation Waveform Performance**

Parameter	Specification	Regulatory Compliance
Waveform Type	Monophasic Truncated Exponential (MTE)	ISO 27186 Annex C
Peak Voltage	1.53 kV (Adjustable up to 2.0 kV)	Clinical Simulation Standard
Rise Time	1.4 $\mu$ s	$\pm$ 10% Tolerance
Voltage Rate (dV/dt)	1.08 kV/ $\mu$ s	Critical Stress Parameter
Pulse Duration	18 ms	Standardized Pulse Width
Voltage Decay	>50% of peak after 18 ms	Truncated Exponential Requirement

**Table 2: System Operating Requirements**

Feature	Requirement	Notes
Power Supply	AC 220 V $\pm$ 10%, 50/60 Hz	Standard Lab Power
Operating Temperature	10°C – 40°C	Controlled Environment

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Feature	Requirement	Notes
Environmental Humidity	< 80% Non-condensing	HV Isolation Safety

#### 4. Industrial Applications & Strategic Value

- **Implantable Device Manufacturers:** Essential for the validation of pacemakers, ICDs, and CRT devices during the R&D and pre-market approval phases.
- **Third-Party Certification (UL, Intertek, SGS):** Provides traceable, high-accuracy data required for international safety certification and compliance auditing.
- **Quality Assurance Teams:** Enables batch verification and production sampling to ensure the dielectric consistency of high-voltage leads and pulse generators.
- **Regulatory Compliance:** Streamlines the generation of technical documentation for FDA, CE, and NMPA submissions, proving functional recovery and patient safety.

#### 5. Strategic Procurement Advantages

- **Operational Efficiency:** Automated safety features and programmable energy control reduce setup time and maximize test throughput.
- **Certified Reliability:** Manufactured in an ISO 9001/14001/45001 facility. Supports ISO 17025 traceable calibration to ensure the highest data integrity.
- **Comprehensive Lifecycle Support:** Rigorous factory calibration at our Dongguan headquarters, accompanied by a 1-year warranty and dedicated technical engineering support.

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*Note: For measurement integrity, KingPo recommends verifying output parameters with a calibrated high-voltage oscilloscope before each test sequence. Annual calibration of the high-voltage circuit is mandatory to maintain ISO traceability.*