MEDICAL DEVICE TEST EQUIPMENT

Cochlear Implant Electrode Dielectric Strength Testing System

Laboratory system for DC dielectric strength testing of applicable insulation in cochlear implant electrode assemblies and AC impedance measurement between selected electrode pairs.



System shown with electrode positioning station and integrated controls

50–200 V DC	20 Hz–300 kHz	26 channels
Adjustable output	Analyzer frequency range	Electrode switching

Applicable Standards

ISO 14708-7:2019, Clause 16.3, refers to ISO 14708-1:2014, Clause 16.3, for the dielectric strength of applicable insulated sections of implanted leads or catheters containing conductors.

Prepare specimens according to the applicable procedure before testing. Select the test voltage based on the peak voltage across the relevant insulation and the applicable test requirements.

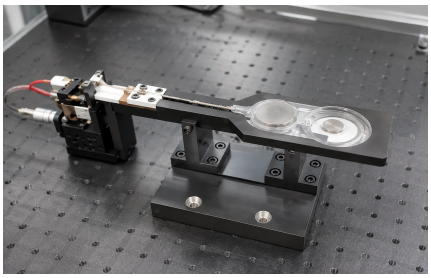
Technical Specifications

PARAMETER	SPECIFICATION
DC output range	50–200 V DC, continuously adjustable
DC voltage accuracy	±(1.0% of setting + 2 V)
DC current measurement range	1 µA–10 mA
DC current measurement accuracy	±(1.0% of reading + 5 digits)
AC impedance analyzer frequency range	20 Hz–300 kHz
Impedance analyzer basic accuracy	0.05%
Electrode switching channels	26
Electrode diameter	0.5–2 mm
Measurable electrode gap	0.4–3 mm
Probe movement accuracy	≤10 µm

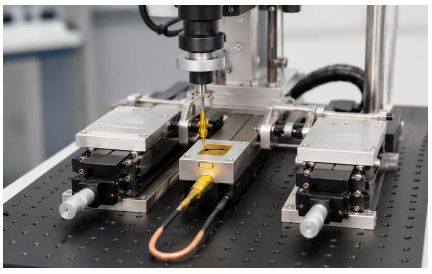
The documented test setup uses DC voltages up to 120 V and impedance measurement frequencies of 100 Hz–100 kHz. These are setup values within the module ranges shown above.

Test Setup and Software

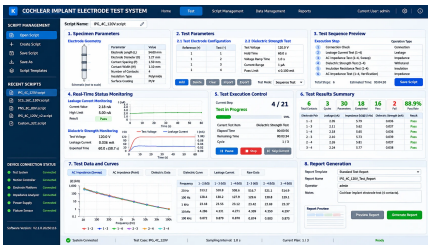
The fixture positions compatible electrode assemblies for probe contact. The switching matrix selects electrode pairs, and the software runs configured test sequences, records measurement data and generates reports.



Electrode holding fixture



Probe positioning assembly



Illustrative software interface

Values and results shown in the interface are illustrative.

Configuration and Technical Inquiry

Send an electrode drawing showing contact geometry and gaps, the required electrode pairs, DC voltage and hold time, and the AC measurement frequencies. Include the applicable standard and clause so KingPo can confirm fixture compatibility and test configuration.

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