

KP8850 ESU Analyzer

High-Frequency Electrosurgical Unit Analyzer

For IEC 60601-2-2 related electrosurgical unit testing

0-500 W

Output Power

0-5 kV

Peak-to-peak Voltage

20-1000 mA

HF Leakage Current

0-2000 Ω

Load & REM/CQM



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Product Link

Product Overview

The KP8850 High-Frequency Electrosurgical Unit Analyzer is designed for comprehensive performance testing, safety verification and functional evaluation of electrosurgical units (ESUs). It supports output power testing, load response analysis, high-frequency leakage current measurement, REM/CQM verification and waveform observation for IEC 60601-2-2 related applications.



KP8850 front panel with touchscreen and electrode ports

Standards Support

IEC 60601-2-2 related electrosurgical unit testing. Projects may also refer to GB 9706.202, ANSI/AAMI HF18, WS/T 602 and JJF 1217-2025 depending on laboratory procedure and local requirements.

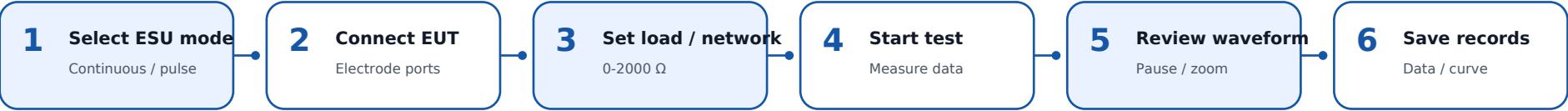
Typical Users

Electrosurgical unit manufacturers, medical device testing laboratories, hospital biomedical engineering departments, certification bodies and metrology institutes.

Engineering Focus

Power output, load response, HF leakage current, REM/CQM response, waveform behavior, measurement records and calibration-related workflow support.

Test Workflow



Notes: Product parameters in this datasheet are aligned with the KP8850 product manual, including power range, voltage range, current range, HF leakage current range, load resistance, REM/CQM range, bandwidth and system interface. Final quotation should confirm the selected configuration, calibration documents and test procedure.

Technical Specifications

Measurement Item	Specification
Power measurement	0-500 W, 0.1 W resolution
Power accuracy	≤50 W: ±(5.0% + 2 digits); >50 W: ±(2.5% + 2 digits)
Voltage measurement	0-5 kV peak-to-peak
Current measurement	2 mA-5000 mA RMS, 0.1 mA resolution, ±2.5% of reading
HF leakage current	20 mA-1000 mA, 0.1 mA resolution, ±2.5% of reading
Measurement bandwidth	30 kHz-100 MHz
Measurement principle	Voltage method and current method

Load / Function	Specification
Load impedance	0-2000 Ω
Load accuracy	±1% for ≥50 Ω; ±2.5% for ≥10 Ω and <50 Ω
Pulse mode testing	Supported
Crest factor	1.4-400
Load power curve	Supported; internal impedance automatic switching
REM/CQM test	0-2000 Ω; 0 Ω short, open circuit and defined test load
Automatic testing	Supported

System Configuration

System Item	Specification
Display	Full-color 10-inch LCD touchscreen
Display functions	Graphical display, waveform display, test curve display and waveform magnification
Communication	Ethernet / LAN
Display extension	HDMI external display support
Calibration output	BNC calibration output port
Data storage	500G internal storage
Power supply	AC 220 V ±10%, 50 Hz / 60 Hz
Dimensions / weight	580 × 450 × 220 mm / approx. 15 kg

Output Power Measurement & Load Power Curve Testing

The KP8850 measures ESU output power under selected load resistance conditions and supports load power curve testing with internal impedance automatic switching. This helps engineers evaluate output stability and generator behavior under different load settings.

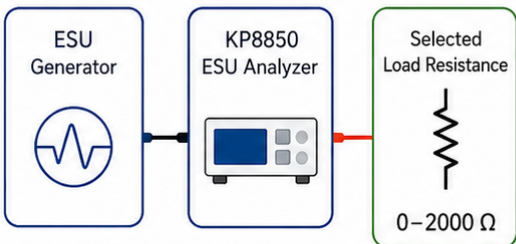
Function Coverage

Output power measurement, selected load resistance, output frequency setting, load power curve, internal impedance switching and data / curve record.

Output Power Measurement & Load Power Curve Testing

Evaluate electrosurgical generator output under selected load resistance conditions

1. Test Connection



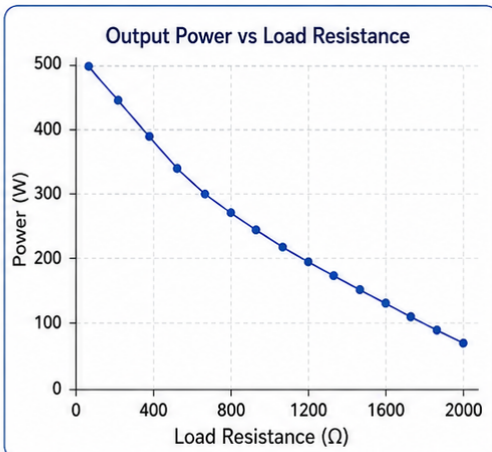
Output Frequency Setting

Selected Load Resistance: 0-2000 Ω

2. Power Measurement



3. Load Power Curve



Power Measurement
0-500 W
Resolution: 0.1 W

Load Power Curve
Output Power
vs Load Resistance

Internal Impedance
Automatic Switching

Data & Curve
Record

HF Leakage Current & REM/CQM Verification

The KP8850 supports multiple high-frequency leakage current test networks, including neutral electrode leakage current, isolated neutral electrode leakage, active electrode leakage and bipolar electrode HF leakage current. It also supports REM/COM verification from 0 to 2000 Ω .

High-Frequency Leakage Current Test Networks

Measure unintended HF current paths under different test conditions

1 Neutral Electrode Leakage Current

Neutral electrode return path measured to ground.

2 Neutral Electrode Isolated from Ground

Neutral electrode return path measured with neutral isolated from ground.

3 Active Electrode Leakage Current

Active electrode current leakage measured to ground.

4 Bipolar Electrode HF Leakage Current

Bipolar electrode HF leakage measured to ground.

Measurement Range: 20 mA–1000 mA

Resolution: 0.1 mA

Accuracy: $\pm 2.5\%$ of Reading

Select the correct test network and connection method according to the required test item.

REM / CQM Verification & Waveform Display

Verify return electrode monitoring and review ESU waveform behavior in real time

REM / CQM Verification (0–2000 Ω)

1 0 Ω Short Circuit

Simulates a shorted return electrode (0 Ω).

2 Open Circuit

Simulates an open return electrode connection.

3 Adjustable Test Load 0–2000 Ω

Simulates return electrode impedance from 0 to 2000 Ω .

Verify Return Electrode Monitoring (REM) and Contact Quality Monitoring (CQM) response.

Waveform Display & Measurement

Voltage: 0–5 kV peak-to-peak

Current: 2 mA–5000 mA RMS

Crest Factor: 1.4–400

Waveform Functions: Pause / Hold / Zoom / Review

HF Leakage Current

20 mA–1000 mA range with 0.1 mA resolution and $\pm 2.5\%$ reading accuracy. Test networks should follow the required electrode condition and laboratory procedure.

REM/CQM Verification

Simulates 0 Ω short circuit, open circuit and defined test load within 0–2000 Ω to verify return electrode monitoring and contact quality behavior.

Waveform Review

The software interface supports waveform display, pause, data hold and magnification for reviewing continuous, pulsed or modulated ESU output behavior.

Note: Diagrams are simplified technical illustrations based on KP8850 manual workflows. Always follow the applicable standard and laboratory procedure for formal testing.

Applications & Engineering Support

ESU Manufacturers

R&D; testing, output power verification, load curve comparison, production inspection and standards-related preparation.

Medical Device Test Labs

IEC 60601-2-2 related electrosurgical generator testing, leakage current verification, waveform review and test records.

Hospital Biomedical Teams

Acceptance inspection, preventive maintenance, post-repair verification and troubleshooting of electrosurgical units.

Metrology Institutes

HF leakage current calibration, AC power/current calibration, 200 Ω fixed resistance and variable load accuracy verification.

Calibration & Documentation

Item	Support Scope
Calibration functions	HF leakage current calibration, AC power/current calibration, 200 Ω fixed resistance accuracy, variable load resistance accuracy
Documentation	Factory calibration documentation and calibration certificate can be provided according to order requirements
Standard package	Main unit, power cable, high-voltage test cables, user manual, warranty card and packing list
Before quotation	Confirm ESU model, output modes, frequency, power range, required test items, load range, leakage current network and documentation needs

For technical quotation, please send KINGPO your ESU model, output mode, required standard, leakage current test network, REM/CQM requirement, calibration document scope and local power supply.



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