

RF303_{RS}

ANALIZADOR DE ELECTROBISTURÍES



Descripción

El analizador de electrobisturías RF303RS dispone de suficientes cargas de prueba seleccionables por el usuario para realizar rutinas de mantenimiento en la mayor parte de las unidades de electrocirugía presentes en el mercado actualmente. Compacto y portátil, el dispositivo es muy fácil de utilizar por los técnicos conociendo el RF303RS en unos minutos.

El instrumento mide la salida del electrobisturí y la fuga de alta frecuencia, permite la prueba de verificación de los monitores de calidad de contacto del electrodo neutro, y dispone de una salida para osciloscopio para la visualización de la forma de onda. Salida instantánea o tiempos de muestreo seleccionables suministran una versatilidad extra. El modo instantáneo es suficiente para la mayor parte de unidades, pero si las lecturas de salida son variables y requieren estabilización, el modo de señal promedio permite al usuario seleccionar manualmente dos tiempos lentos adicionales de muestreo para producir una lectura promedio precisa.

Características principales

- Configuración simple para uso fácil
- Salida para osciloscopio, fuga de alta frecuencia, y prueba de monitor de calidad de contacto de electrodo neutro
- Modo de medición instantáneo y de señal promedio
- Habilidad para conectar con medTester 5000C de Fluke Biomedical para solución de automatización
- Puerto RS-232 para el control de PC
- Alimentado a batería
- Pantalla LCD de 4 dígitos numéricos con retroiluminación y modo de reducción de consumo

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Technical Specifications

Modes of Operation

Line powered, battery powered, offline (battery maintenance charge)

Test Parameters

Power (W), HF current (mA), test load (Ω)

Tests Performed

Generator Output

HF leakage (Performs to IEC 601 2-2, 1289-2, ANSI/AAMI standards)

Type BF Test 1: Earth-referenced monopolar output

Type BF Test 2: Earth-referenced monopolar output

Type CF/Bipolar: Isolated monopolar or bipolar output

Current Measurement (Leakage)

Range: 30 mA to 2500 mA RMS

Resolution: 1 mA

Accuracy: $\pm 2.5\%$ of reading or ± 15 mA (whichever is greater)

Power Measurement (Output)

Range: 1 W to 400 W

Resolution: 0.1 W

Accuracy: $\pm 5\%$ of reading or ± 3 W (whichever is greater)

Bandwidth of RMS Converter Circuit (1 % Accuracy)

Flat Response: 10 kHz to 10 MHz

-3 dB points: 1 kHz to 20 MHz

Frequency Response

System Response: -3 dB points, 1 kHz to 10 MHz at 300 Ω

CQM Test

50 Ω to 750 Ω , 50- Ω steps

Test Load Section

Number of selections: 15

Range: 50 Ω to 750 Ω

Step Size: 50 Ω

Accuracy (DC to 500 KHz): $\pm 4\%$ of selected

value measured at calibration to $\pm 1\%$

(across the entire operating temperature range)

Duty Cycle: 50 % @ 400 W (max 30 sec ON

during any 1-minute period)

Resonance Impedance Variation: ± 0.5 dB max

(< 10 MHz)

Auxiliary Leakage Test Load

Fixed: 200 Ω

Accuracy: $\pm 4\%$

Power Rating: 225 W

Input Capacitance (Nominal)

Active to Dispersive: 30 pF

Active or Dispersive to Earth Ground: 40 pF

Oscilloscope Output

Transformer coupled output, uncalibrated

Connector Type: BNC

Battery

Type: Sealed lead-acid

Time Between Recharge: 2 hours

(continuous use)

Time to Full Charge: 8 hrs

Number of Cycles: 200

Capacity: 2.2 A H

Field Serviceable: No

Recharging: Internal, automatic charger; power cord required.

Front-Panel Controls/Push buttons

Measurement select (1)

Load Select: Increment test load (+) one step; decrement test load (-) one step

Top-Panel Input Connections

Designations:

- Generator output-active (1)
- Generator output-dispersive (2)
- Signal earth/ground reference (2)
- Auxiliary HF leakage load (2)

Connector Type: 4 mm (0.16 in.) diameter safety sockets

Input Voltage Limit: 10,000 V peak

Input Current Limit: 3 A RMS

Installation Category: II

Side Input Connection

Designation: Signal reference

Calibration Period

Recommended Calibration: Every 12 months

Power Requirements

Universal input switching supply (12 VDC output)

Operating Voltages:

- Specified: 115 VAC/230 VAC
- Max Range: 83 VAC to 264 VAC

Operating Frequencies:

- Specified: 50 Hz / 60Hz
- Max Range: 47 Hz to 63 Hz

Maximum Input Requirement: 60 VA

Fusing External (User-Replaceable):

- Quantity: 2; 250 V, 3.15 A, Type F, L1 and L2

Temperature

Operating: 59 °F to 95 °F (15 °C to 35 °C)

Storage: 32 °F to 122 °F (0 °C to 50 °C)

Humidity range

90 % non-condensing

Altitude

to 6,562 ft (2,000 meters)

Ventilation

Internal fan with variable speed control; over-temperature detector; magnetic tachometer sensor to detect blocked fan rotor

Display

LCD, 7-segment, 4 full digits, 2 in x 0.75 in

Case Construction

High-impact plastic, UL94-V0

Dimensions

11.5 in L x 13.25 in W x 6 in H (29.2 cm x 33.7 cm x 15.2 cm)

Weight

14.2 lb (5.6 kg)

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Ordering Information

Model

2251504: ESU303RS-US120V

2394461: ESU303RS-AUS250V

2394477: ESU303RS-DEN250V

2394489: ESU303RS-SHK250V

2394492: ESU303RS-ISR250V

2394509: ESU303RS-ITAL250V

2394511: ESU303RS-IND250V

2394527: ESU303RS-SWZ250V

2394530: ESU303RS-UK250V

Standard accessories

2202027: User/service manual

2202009: Accessory kit

Accessory kit includes the following

2200904: Active safety lead

2200872: ESU dispersive safety lead

2200860: ESU CQM safety lead

2200885: ESU case safety lead

2200897: ESU jumper safety leads (2)

2196071: Active safety clip yellow

2196080: Case safety clip green

2183792: Fuses (2) 5X20 F3.15A 250V CE

2242165: Ground pin adapter

Detachable power cord (country specific)

Optional accessories

2248587: Multipurpose hard-sided, watertight carrying case

2204472: Serial cable for D9F-D9F

2238659: Interface cable, medTester to RF303RS (RS232; male DB9 to female DB9; adapter required, p/n 2391789)

2391789: Adapter for interface cable, medTester to RF303RS (male DB9 to female DB25; used with interface cable, p/n 2238659)

Fluke Biomedical.

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About Fluke Biomedical

Fluke Biomedical is the world's leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today's challenges.

Fluke Biomedical Regulatory Commitment

As a medical device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 certified and our products are:

- FDA Compliant
- CE Certified, where required
- NIST Traceable and Calibrated
- UL, CSA, ETL Certified, where required