



Rigel 288+

Accurate and fast electrical safety tester



The Rigel 288+ is the first truly handheld medical electrical safety tester to combine the features of an automatic / manual tester with data logging and asset management capability. Operation is through a menu driven GUI. A 5,000 record memory and Bluetooth connectivity make this an effective mobile unit.

The Rigel 288+ electrical safety analyzer offers an accurate and fast solution for meeting international and local safety standards, including:

IEC/EN 62353, AAMI/IEC/EN 60601-1, IEC 61010, NFPA-99, AS/NZ 3551

Why buy the Rigel 288+?

- > The 288+ is available in several different plug and socket types
- > A light, handheld design with battery operation gives you the freedom to move around.
- > Predefined and custom test routines make testing more efficient and dependable

Key Features:

- > Automatic warning of secondary earth/ground paths
- > Battery powered earth/ground bond, insulation and leakage testing
- > Accurate high current, low energy earth bond testing
- > Bluetooth communication

Passionate about patient safety.
T: +44 (0) 191 587 8730 E: sales@rigelmedical.com



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See the **288+** for yourself, request your FREE live online demonstration today at **rigelmedical.com/288plus**



What's in the box?

- > Calibration certificate
- > Carrying case
- > Earth/ground bond test probe with clip and clip lead
- > Patient Applied part module
- > 10 Applied part adaptors
- > Detachable 2 meter mains cable
- > Quick start guide

Optional Accessories:

- > Med-eBase test solution software (383A910)
- > Barcode scanner with embedded Bluetooth (339A923)
- > Bluetooth Test n Tag Elite 2 Printer (339A989)
- > Bluetooth results printer (339A930)

Technical Specification:

Earth Continuity

Pre-pulse	65-25A peak current, (0.1 to 0.8 Ω respectively)
Pulse shape	Exponential decay
Decay time	200 – 550 μ s to 5% of peak current (0.1 to 0.8 Ω respectively)
Method 2 wire technique	using 'zero' lead function.
Test Current	>+200mA -200mA DC into 2 ohms
Max Test Voltage	4-24V rms o/c (6V for IEC 60601 tests)
Measuring Range (low range)	0.001 – 0.999 ohms @ 0.001 ohms resolution
Measuring Range (mid range)	1.00 – 9.99 ohms / @ 0.01 ohms resolution
Measuring Range (high range)	10.0 – 19.9 ohms @ 0.1 ohms resolution
Accuracy	$\pm$ 3% of reading + 10 m ohms

Insulation Resistance

Measurement	EUT to Earth / Ground, EUT to AP, AP to Ground
Voltage	50, 100, 250 & 500 V DC @ 1mA.
Range (low range) @ 50V DC	0.01Mohms - 10Mohms
Range (low range) @ Above 50V DC	0.01Mohms - 20Mohms
Accuracy (low range)	$\pm$ 5% of reading + 2 counts
Range (high range) @ 500V DC	20Mohms – 100Mohms
Range (high range) @ 250V DC	20Mohms – 50Mohms
Accuracy (high range)	$\pm$ 10% +2 counts
Resolution	0.01Mohms

Direct Leakage Measurement

Measuring Range	4 μ A to 9999 μ A
Accuracy	$\pm$ 5% or reading +2 counts
Mains on A.P. voltage	F-type only @ 110% of mains
Measuring Device	As per IEC 60601-1 requirements
Measurement Type	Separate AC & DC for Patient (Auxiliary) Leakage to IEC 60601, True RMS for all remaining Leakage tests

Differential Leakage Measurement

Measuring Range	75 μ A to 9999 μ A
Accuracy	$\pm$ 5% of reading + 5 counts
Measurement / display resolution	1 μ A
Measurement Type	True RMS
Measuring Device	frequency response characteristics to IEC 60601-1.

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Service and Warranty

The 288+ comes with a free 12-month warranty, subject to terms and conditions, available at

rigelmedical.com/register

Technical Specification (Continued):

Alternative Leakage Measurement

Test Voltage	250V at mains frequency
Test Current	3.5 mA current limited
Measurement Range	4µA to 9999µA
Measurement Resolution	1µA
Measurement Accuracy	±5% of reading + 2 counts
Measurement Type	True RMS
Measuring Device	As per IEC 60601-1

Power Measurement

Method	VA rating
Range	0.1KVA – 4KVA
Accuracy	±10% + 2 counts

Mains Outlet Test

Input voltage range	0-300V AC
Max current	16A
Measures	L – E, N – E
Accuracy	± 5% of reading + 2 counts

IEC Mains Lead Test

Test Duration	2s
Test	Continuity of all EB conductor, Insulation & Polarity

General Specifications:

Mains power	230 VAC ±10%, 50Hz +/- 1Hz 120 VAC ±10%, 60Hz +/- 1Hz (USA model)
Battery	6 x 1.5V Alkaline AA
Weight	1.6 kg including batteries
Size (L x W x D)	270 x 110 x 75 mm / 10.5 x 4 x 3"
Operating conditions	0°C - 40°C, 0-90% RH - NC
Storage environment	-15°C - +60°C
Environmental Protection	IP 40
Pollution degree	2
Overvoltage category	CAT II 300V
Altitude	2000m

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