

Rigel 62353+

The smallest and most flexible electrical safety analyzer on the market with battery powered earth/ground bond and insulation testing.

The Rigel 62353+ electrical safety analyzer offers an accurate and fast solution for testing in accordance with the IEC 62353 safety standard.

Offering a range of tests without the need for mains power, the 62353+ is capable of conducting battery-powered insulation and earth/ground bond testing. This offers complete freedom to move around in often crowded rooms during the installation process, eliminating the inconvenience of trailing mains cables.

The 62353+ has added two new insulation resistance tests (50VDC and 100VDC) to complement the 250VDC and 500VDC insulation tests that were present in its predecessor, the Rigel 62353. These new tests conform to growing manufacturer's test requirements for increasingly popular equipment running on 24VDC and 48VDC, such as operating tables, lights and mobile X-rays.

Combining automatic and manual test sequences, data storage and direct download facilities, the Rigel 62353+ remains the most compact electrical safety analyzer of its kind. Automatic warning of secondary earth/ground paths ensures users are made aware when invalid readings are made, thus ensuring correct and accurate test results first time, every time.

The Rigel 62353+ is available in a wide range of power configurations to suit local requirements, and conforms to several international standards including IEC / EN 62353, NFPA-99, AS / NZ 355199 and many other local variants.

The comprehensive database software, Med-eBase, ensures fast and easy download of test results, straightforward management of asset databases, creation of test sequences and the ability to produce professional test certificates.

Schuko and other mains configurations available



Key Benefits

- All-in-one compliance with international standards including IEC / EN 62353, NFPA-99, AS / NZ 3551
- Built-in electronic data storage and automated testing reduce paperwork and saves time
- Flexible user-definable test routines to meet the needs of your organisation
- Simple PC communication link
- Battery-powered insulation and earth/ground bond tests enable faster and more convenient testing
- 50 / 100 / 250 / 500VDC insulation testing allows testing on equipment running on 24VDC and 48VDC up to 253VAC
- Automatic secondary verification ensures the correct result first time
- Accurate high current, low energy bond testing
- Available in a range of mains configurations to meet local requirements across the globe

Electrical/Analysis Functions

Electrical Safety Tests performed:

- Earth/ground bond
- Insulation

Specific to IEC 62353:

- Equipment leakage (direct, differential and alternative method)
- Applied part leakage (direct and alternative method)
- Custom tests can be created using a variation or combination of the above.

62353+ Applications

- Routine testing of medical electrical equipment
- Service tool for performance testing
- Asset management
- Fast and efficient testing of IEC leads
- Earth/ground bond testing on (medical) installations and non-medical equipment



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► **Compliance with international standards**

Have peace of mind when it comes to having to comply with a variety of international and local standards and recommendations, including IEC / EN 62353, NFPA-99, AS / NZ 3551.



◀ **Built-in electronic data storage and automated testing**

Leave the laptop in the office and rest assured that the 62353+ has an internal memory to store 5,000 test results, eliminating the risk of manual data capture error and the hassle of paperwork.

Automated test sequences ensure test procedures are performed in a consistent manner, whilst saving time and money through speeding up the test process.

► **Flexible user-definable test routines**

Have complete flexibility over test routines by setting the Rigel 62353+ to incorporate user-defined protocols, including specific test instructions or a space to record visual inspections.

It's easy to update the customizable routines to ensure that test procedures are always up-to-date with the latest requirements.



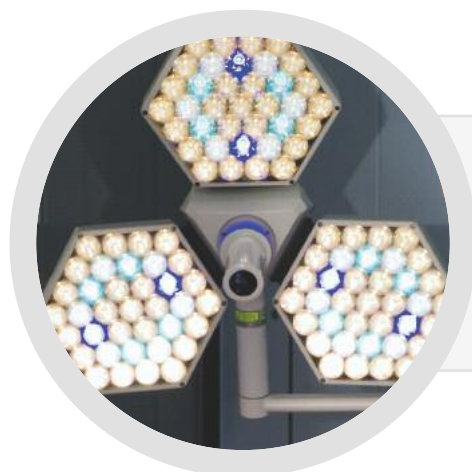
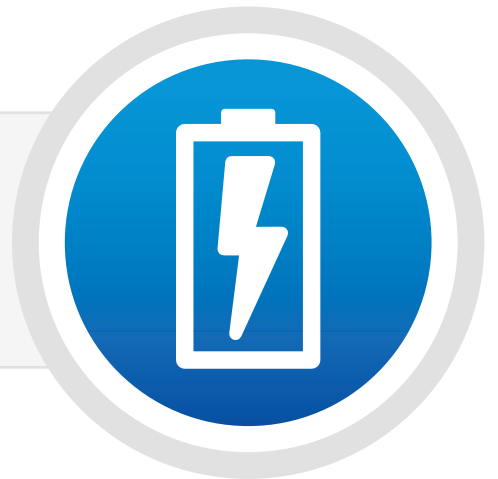


◀ Simple PC communication link

At the touch of a button, stored data can be downloaded to a PC in CSV format and accessed by a wide range of software packages or imported directly to Med-eBase.

▶ Battery-powered testing

The 62353+ runs on standard AA batteries, and is capable of performing point-to-point leakage, bond and insulation resistance tests on battery power alone.



◀ Low voltage insulation testing

Meet the ever growing need to meet manufacturer's test requirements for increasingly popular equipment running on 24VDC and 48VDC, such as operating tables, lights and mobile X-rays.

▶ Automatic test verification

Get the correct results first time and avoid time consuming re-tests with Rigel's unique and automated verification of incoming mains configuration and secondary paths, which result in false positives.



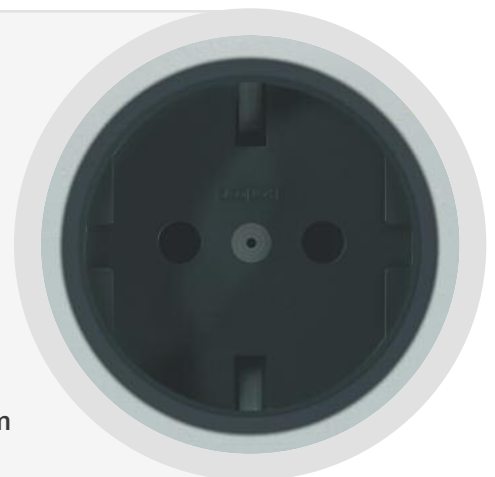
◀ Accurate high current, low energy bond testing

Rigel's unique bond technology, gives accurate and precise readings, saving time and unnecessary replacement of good mains cables. Measurements are still conducted at 200mA to ensure mechanical wear is being identified.

▶ Available in international mains configurations

The Rigel 62353+ is a truly global product, available in the widest possible range of mains configurations to meet local requirements across the globe. Please contact us at support@rigelmedical.com to enquire about the available mains configuration for your area.

- USA, 120V
- Schuko Germany, 230V
- UK, 230V
- Schuko France/Poland, 230V
- More versions available. Please contact us on support@rigelmedical.com
- China, 220V
- India/South Africa, 220V
- Japan, 100V
- Australia/New Zealand, 10A/230V



Technical Specifications

Continuity

| | |
|------------------------------|---|
| Method | 2 wire technique using 'zero' lead function |
| Test Current | >+200mA -200mA DC into 2Ω |
| Max Test Voltage | 4-24Vrms o/c |
| Measuring Range (low range) | 0.001 – 0.999Ω @ 0.001Ω resolution |
| Measuring Range (mid range) | 1.00 – 9.99Ω /@ 0.01Ω resolution |
| Measuring Range (high range) | 10.0 – 19.9Ω @ 0.1Ω resolution |
| Accuracy | ± 3% of reading + 0.01Ω |

Insulation Resistance

| | |
|---------------------------------|--|
| Measurement | EUT to Earth / Ground, EUT to AP, AP to Ground |
| Voltage | 50 / 100 / 250 & 500VDC @ 1mA. |
| Range (low range) @ 50VDC | 0.01MΩ - 10MΩ |
| Range (low range) @ Above 50VDC | 0.01MΩ - 20MΩ |
| Accuracy (low range) | ± 5% of reading + 2 counts |
| Range (high range) @ 250VDC | 20MΩ – 50MΩ |
| Range (high range) @ 500VDC | 20MΩ – 100MΩ |
| Accuracy (high range) | ±10% +2 counts |
| Resolution | 0.01MΩ |

Direct Leakage Measurement

| | |
|------------------|---------------------------------|
| Measuring Range | 4μA to 9999μA |
| Accuracy | ± 5% or reading +2 counts |
| Measuring Device | As per IEC 60601-1 requirements |
| Measurement Type | True RMS |

Differential Leakage Measurement

| | |
|----------------------------------|---|
| Measuring Range | 75μA to 9999μA |
| Accuracy | ±5% of reading + 5 counts |
| Measurement / display resolution | 1μA |
| Measurement Type | True RMS |
| Measuring Device | Frequency response characteristics to IEC 60601-1 |

Alternative Leakage Measurements

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|------------------------|---------------------------|
| 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

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|----------|-----------------|
| Method | VA rating |
| Range | 0.1kVA – 4kVA |
| Accuracy | ±10% + 2 counts |

Mains Outlet Test

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

IEC Mains Lead Test

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|---------------|---|
| Test Duration | 2s |
| Test | Continuity of all conductors, Insulation & Polarity |

General Specifications

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|--------------------------|--|
| Mains power | 230VAC ±10%, 50-60Hz +/- 1Hz 120VAC ±10%, 60Hz +/- 1Hz (USA model) |
| Battery | 6 x 1.5V AA (batteries not included) |
| Weight | 1.6 kg / 3.5 lbs 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 / 32°F-104°F, 0-90% RH - NC |
| Storage environment | -15°C - +60°C / 5°F-140°F |
| Environmental Protection | IP 40 |

Service & Warranty

62353+ comes with a free upgraded 24 month warranty (subject to terms and conditions, available at www.rigelmedical.com/register-product)

Standard Accessories (supplied with 62353+)

- Calibration certificate
- Carrying case
- Earth/ground bond test probe with clip
- Earth/ground bond clip lead
- Patient Applied lead
- 2 Applied part adaptors
- Detachable 2 meter mains cable
- Electronic instruction manual
- Quick start guide
- Application software

Optional Accessories

- Med-eBase test solution software
- Pelican case
- RS 232 download cable