Guardian

USES:

- Production & Compliance Testing of Appliances, Instruments, and Information Technology Equipment in Accordance with UL, IEC, TUV and other standards such as EN60335, EN60950, EN61010, CSA C22.2 No.1010.1, UL3111 and UL1950
- Transformer Electrical Safety Testing
- Electric Motor Safety Testing
- Testing Electronic Components

FEATURES:

- Programmable Output Voltage to 5KV AC and 6KV DC
- Measurement of Real, Imaginary and Total Current
- Ground Fault Interruption (GFI) for operator safety
- Programmable Ramp, Test and Fall Times
- Storage of Tests Setups, 25 User (5 predefined), and 9 Multi-step with 3 steps per measurement
- Continuous Leakage Current Monitoring down to 0.1µA
- Ground Continuity Test with Adjustable Limits
- Password Protected Front Panel Lockout
- RS-232 standard, Remote I/O , IEEE-488, and enhanced remote options
- Review of Data after Measurement
- Insulation Resistance Measurements from 10kΩ to 2TΩ

2500 Series

AC/DC/IR Hipot Testers

Introduction

The Guardian 2500 Series of Hipot Testers is designed to perform the most common electrical safety tests outlined in UL, TUV, IEC and other standards. Emphasis has been placed on ease of use, automation, rugged reliability and safety, making the Guardian 2500 Series "The Safest Choice" in electrical safety testers.

Description

The Guardian 2500 Series builds upon QuadTech's Sentry family of electrical safety testers and incorporates a unique Ground Fault Interruption (GFI) feature (patent pending) as well as options for IEEE 488, RS232 and enhanced remote interfaces. The GFI circuit is designed to protect the operator from inadvertent contact with the units high voltage output. The principle of operation is based on independent current monitoring on both the high voltage output and the return line. Any imbalance of current shuts the units high voltage output down.

The 2500 provides arc detection capability for monitoring short duration transients in current flow which often go undetected. Both detection level and duration of the arc are user programmable.

The Guardian 2510 AC Hipot Tester performs AC dielectric withstand (hipot) tests. The test voltage is programmable in the range from 100VAC to 5KVAC with low and high current detection limits from 1µA to 15mA. The capability of measuring and displaying real, imaginary and total current makes the unit ideal for testing capacitive type devices, such as power supplies, cables and transformers, where the imaginary part of the total current may be significantly higher than the real part.

The Guardian 2520 AC/DC Hipot Tester has all the features of the Guardian 2510 with the addition of DC hipot. The test voltage can be programmed in the range from 100VDC to 6KVDC, with low and high current detection limits from 0.1µA to 7.5mA.

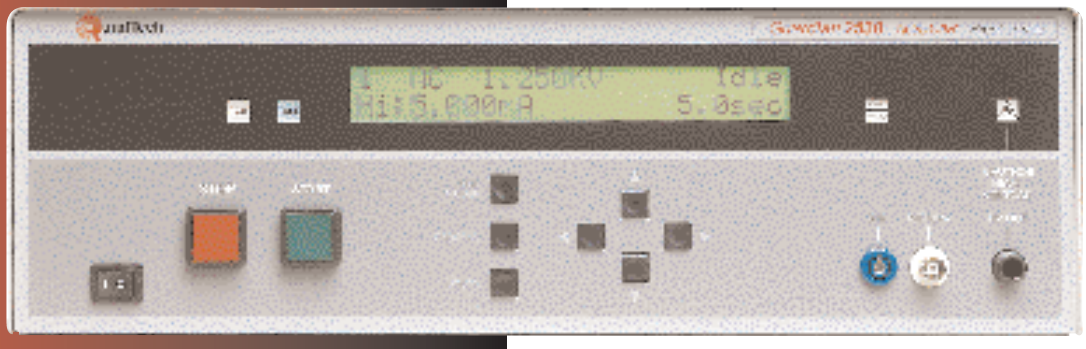
The Guardian 2530 AC/DC/IR Hipot Tester provides measurement of insulation resistance (IR) in addition to the AC/DC hipot capability of the 2510 and 2520. IR is the resistance in ohms, between two points separated by an insulating material. The measurement range is from 10kΩ to 2TΩ with a programmable voltage range from 50 to 1000VDC in 2V steps.

QuadTech
formerly GenRad Instruments
The Safest Choice™
ISO 9001 Certified

For more detailed specifications, visit
www.quadtech.com

For more information about special purchase, rent & lease options, call

1-800-253-1230
Fax 1-508-485-0295
Intl. 1-508-229-0806



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Product Specifications

Guardian 2510, 2520 and 2530

AC Output Voltage: Range: 0.1KV to 5KV AC, in 2V steps
Frequency: 50/60 Hz selectable
Frequency Accuracy: 100ppm
Waveform: Sinusoidal, crest factor 1.4
Regulation: +/-(1% of setting + 5V)

Voltage Display: Accuracy: +/-(1% of reading + 5V)
Resolution: 1V steps

AC Current Display: Real, Imaginary or Total current (user selectable)
Range: 1µA to 15mA AC, in 1µA steps
Accuracy:+/-(0.5% of set high limit + 1µA)

Guardian 2520 and 2530

DC Output Voltage: Range: 0.1KV to 6KV DC, in 2V steps

Voltage Display: Accuracy: +/-(1% of reading + 5V)
Resolution: 1V steps

DC Current Display: Range: 0.1µA to 1.0mA DC, in 0.1µA steps
1.0mA to 7.5mA DC, in 1µA steps
Accuracy:+/-(0.5% set high limit +0.1µA or 1µA)

Guardian 2530

Insulation Resistance: Voltage: 50 to 1000V DC, in 1V steps
Accuracy: +/-(2% of setting + 5V)
Range: 10kΩ- 2TΩ (voltage dependent)
Accuracy: +/-2% for V/R >10nA +/-5% for V/R < 10nA

Charging Current: 7.5mA maximum

Common Features:

Ground Continuity: Test Current: 100 mA DC +/- 10%
Range: 10mΩ to 10Ω, in 1mΩ steps
Accuracy: ±(5% of reading+20mΩ)

Limits: Programmable Hi/Lo during Test Time (Lo can be set to Off for Hipot & GC, Hi can be set to Off for IR)
Programmable Hi/Lo during Ramp Time (AC/DC Hipot only) (Both limits can be set to Off)

Ground Fault Interrupt: Shutdown within 2msec for current imbalance > 250µA (AC)
> 400µA (DC)

Arc Detection: Arc Level AC:
0.01mA - 0.5mA for Hi limit set ≥ 0.5mA
0.1mA - 15mA for Hi limit set > 0.5mA
Arc Level DC:
0.01mA - 0.2mA for Hi limit set ≥ 0.2mA
0.1mA - 8mA for Hi limit set > 0.2mA
Arc Time: 5µsec to 500µs programmable

Indication: Pass/fail display, lights, audible sound

Buzzer Level: Low, High, Off

Time: AC Hipot:
Ramp, Test, Fall: 0.1 to 999sec
DC Hipot and IR:
Ramp, Dwell, Test, Fall: 0.1 to 999sec
GC:
Test: 0.1 to 999sec
(Test can be set to Continuous. Ramp, Dwell, & Fall can be set to Off)

Remote Control: Inputs: Start, Stop
Characteristics: TTL active low, Pulse width >1ms
Outputs: Pass, Fail, Under Test
Characteristics: Dry contact relay, Closed if true
120V, 100mA max
Connector: 9 pin male D-series (compatible w/Sentry Series)

Test Setups: 25 User Defined (shipped with some factory settings)
9 Multi-step (3 steps)

Connectors: Front and Rear Connection
High Voltage: Locking, Amp Part # 861611-1
Return: BNC female (Selectable for ground or virtual ground)
Continuity: Standard Banana Socket

Front Panel Lockout: 6 Digit Password with or without memory recall

Miscellaneous: Continue Step on Fail
Stop Test on Pass
Continuous Voltage on Fail
Step and Increment

Optional Interfaces: IEEE488
Enhanced Remote: Inputs: Test Selection, Start, Stop
Outputs: Fail for Hi, Low, Arc and Continuity, Pass, Fail, Under Test
Connector: 25 pin male D-series (compatible with Sentry Series via adaptor)

Mechanical: Bench Mount
Dimension: (w x h x d): 17x 5.25x 16in (432x 133x 406mm)

Weight: 29 lbs (13kg) net, 36 lbs (16kg) shipping

Environmental: Meets MIL-T-28800E, Type 3, Class 5
Operating: 0 to 40° C,
Humidity: <75%
Storage: - 10 to + 60° C
Warm-up Time: 1minute

Power: • 90 - 130V AC • 50 or 60Hz
• 200 - 250V AC • 300W max

Ordering Information

2510 AC Hipot Tester
2520 AC/DC Hipot Tester
2530 AC/DC/IR Hipot Tester
Includes:
150319 Instruction Manual
Power Cable
2000-02 Test Leads (3)
Calibration Certificate Traceable to NIST

Optional Accessories
2000-40 IEEE Interface/ Remote
2000-41 RS232 Interface/ Remote
2000-42 Enhanced Remote/ RS232 Calibration Data
2000-04 HV Lead Set 2m
2000-05 Foot Switch
2000-07 Power Entry Adapter
2000-08 Gun Probe
2000-13 Corded Product Adapter(115V)
2000-16 Rack Mount Kit
2000-25 Corded Product Adapter (240V)

For more detailed specifications, visit www.quadtech.com
For more information about special purchase, rent & lease options, call
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