

Guardian 1000 Series Hipot Testers

Multi-Purpose AC/DC/IR/SC Hipot Testers

Introduction

A complete dielectric testing solution, with three models from which to choose. The Guardian 1010 for AC Hipot testing, the Guardian 1030 for AC/DC Hipot testing and insulation resistance (IR) measurements; and the Guardian 1030S which combines both AC and DC Hipot tests and IR measurements with eight HV scan channels. All models have Open/Short Circuit detection and Load/Line regulation to ensure proper device connection and measurement integrity. The digital display and user friendly controls allow test parameters and limits to be set without the high voltage activated.

Description

The Guardian 1010 AC Hipot Tester performs AC dielectric withstand tests. The test voltage can be programmed in the range from 50VAC to 5kVAC with a resolution of 1V. The maximum total output current is 30mA.

The Guardian 1030 AC/DC/IR Hipot Tester has all the features of the Guardian 1010 with the addition of DC hipot and IR measurement capabilities. The test voltage can be programmed in the range from 50VDC to 6kVDC with a resolution of 1V. The maximum total current is 10mA. The IR measurement range is from 0.1MΩ to 50GΩ with test voltages from 50 to 1000VDC.

The Guardian 1030S AC/DC/IR/SC Hipot Tester has all of the features of the Guardian 1030 plus eight HV Scan Channels for multi-point testing.

Real and Total Current Measurement: Accurately measure the leakage current of highly capacitive devices by separating the real and reactive current.

Ground Fault Interrupt (GFI): Provides an extra level of safety for the operator and equipment. The instrument shuts down when the current balance exceeds 0.5mA. G1000 Series units also have an interlock for use with palm switches, light curtains, hoods and other safety switches.

Quick DUT Discharge: In both the DC hipot and IR tests the device under test is discharged back through the HV transformer for a rapid and safe discharge.

Ground Continuity Check: All of the Guardian 1000 Series units have a ground continuity check feature to determine that the resistance, between the ground blade of the power cord and any exposed metal on the product, is less than 1 ohm.

Open/Short Circuit Mode: All Guardian 1000 Series models have OS mode to detect connection of the device in order to prevent false readings. Open ensures the device under test is connected properly and Short ensures the device is not shorted prior to applying the high voltage. The Open value is programmable from 10-100% and the Short value from 100-500%.



For more detailed information on specifications, pricing and special purchase, rent and lease options, contact us at:

USES:

- Production Testing of Appliances, Instruments and Information Technology Equipment in Accordance with UL, IEC, TÜV 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 a Variety of Electronic Components

FEATURES:

- Real and Total Current; 30mA AC, 10mA DC
- Programmable Output Voltage to 5kV AC and 6kV DC
- Resistance Measurements from 0.1MΩ to 50GΩ
- Programmable Ramp, Test & Fall Times
- Programmable High & Low Limits
- Open/Short Circuit Check
- Ground Continuity Check with 1ohm Limit
- Arc Detection with Programmable Limit
- Quick Discharge of DUT in IR and DC Hipot
- Storage of 99 Tests Setups with Multiple Steps per Measurement
- Front Panel Lockout
- Remote I/O & RS232 Interfaces, Std.
- IEEE-488 or Printer Interfaces, Opt.
- 8 Channel Scanner (1030S)

Guardian 1010, 1030 & 1030S**ValueTronics**
International, Inc.

Voltage: 50V to 5000V AC
 Resolution: 1Volts/step
 Frequency: 50/60 Hz selectable
 Waveform: Sinusoidal
 Regulation: +/- (1% of setting +5V)

Voltage Display: Accuracy: +/- (1% of reading + 5V)
 Resolution: 1 Volt
AC Current Display: Total and Real Current
 Range: 0.001mA to 30mA AC
 Resolution: 1µA
 Accuracy: +/- (1% of reading + 5cnt) Total
 Accuracy: +/- (5% of reading + 20cnt) Real
High/Low Limit Test: Range: 0.001mA to 30mA AC
 Low limit can be turned OFF

Guardian 1030 & 1030S

DC Output Voltage: Range: 50V to 6000V DC
 Resolution: 1Volts/step
 Regulation: +/- (1% of setting +5V)
Voltage Display: Accuracy: +/- (1% of reading + 5V)
 Resolution: 1 Volt
DC Current Display: Range: 0.0001mA to 10mA DC
 3 Ranges: .0001mA - 0.3mA,
 0.31mA - 3mA, 3.1mA - 10mA
 Accuracy: +/- (1% of reading + 5cnt)
High/Low Limit Test: 0.1µA to 10mA DC
 Low limit can be turned OFF
Charging Current: 10mA max
Insulation Resistance: Range: 0.1MΩ - 50GΩ
 1M - 1G: +/- (5% + 10 cts), ≥500V
 1G - 10G: +/- (10% + 10 cts), ≥500V
 10G - 50G: +/- (15% + 10 cts), ≥500V
 0.1M - 1G: +/- (10% + 10 cts), <500V
IR Output Voltage: Range: 50V to 1000V DC
 Accuracy: +/- (1.5% of setting +5V)
High/Low Limit Test: 0.1MΩ - 50GΩ
 High limit can be turned OFF

Guardian 1030S

Scan Channels: 8 HV Scan Channels
Test Cables: 8 Custom Banana (unterminated)

Common Features

Open/Short Detection: Voltage <100V, Frequency: 600Hz
 Open: 10-100%; Short: 100-500%

Common Features

Arc Detection: Arc Level: adjustable OFF or
 1mA - 15mA AC & 10mA DC
 Arc Duration: > 10µs
Indication: Pass/fail lights, audible sound
Time: Ramp: 0.1 to 999s (+/-20ms), OFF
 Test: 0.1 to 999s (+/-20ms), Continuous
 Fall: 0.1 to 999s (+/-20ms), OFF
Quick Discharge: Discharge of voltage across DUT back
 through the HV transformer
Output Cutoff: <0.4msec after limit exceeded
Ground Continuity: High Limit: 1Ω
 Accuracy: +/-0.2Ω
Ground Fault Interrupt: Automatic instrument shutdown for
 current imbalance >0.5mA
Standard Interfaces: RS232, Remote
 Inputs: Start, Stop and Interlock
 Characteristics: 24V Active Low,
 Pulse Width ≥20ms.
 Outputs: Pass/Fail/Under Test
 Characteristics: Dry Contact relay
 Ele. Characteristics: 120V 100mA max.
 Logic: Closed if True
 Connector: 9 pin Male D-Series
Optional Interfaces: IEEE 488 or Printer
Test Setups: 99 Memory Locations, 99 Steps, max 500
Connectors: Front Connection (HV and RTN)
 HV OUTPUT (Custom Banana)
 RTN/LOW (Binding Post)
Front Panel Lockout: Key press with or without memory recall
Miscellaneous: Zero Offset
Dimensions: (w x h x d): 12.8x4.2x16in
 (320x105x400mm)
Weight: **1010 & 1030:** 30.5 lbs (14kg) net,
 36 lbs (16.5kg) ship
1030S: 32.5 lbs (15kg) net,
 38 lbs (17.5kg) ship
Environmental: Meets MIL-T-28800E, Type 3, Class 5
 Operating: 0°C to + 40°C
 Humidity: <70%
 Storage: - 10°C to + 60°C
Power: •90 - 130V AC •50 or 60Hz
 •200 - 250V AC •500W max

Ordering Information

Guardian 1010 AC Hipot Tester
 Guardian 1030 AC/DC/IR Hipot Tester
 Guardian 1030S AC/DC/IR Hipot Tester

Includes:

150665 Instruction Manual
 700070 Power Cable
 S02 Test Leads
 700100 Ground Continuity Lead
 Calibration Certificate Traceable to NIST
 Lead Set: (8) Untermated (1030S only)

Optional Accessories:

Calibration Data
 S02 HV Lead Set, 1m, (std w/unit)
 S03 Corded Product Adapter(115V)
 S04 HV Lead Set, 2m
 S05 Foot Switch
 S06 High Voltage Probe
 S07 Power Entry Adapter Cable
 S08 Gun Probe
 S09 HV Lead, 1 meter, unterminated
 S10 HV Lead, 2 meters, unterminated

S11 Gun Probe with remote start
 S12 Load Box, resistive
 S14 Load Box, custom resistors
 S15 Interconnection Cable to S50
 G16 International Power Strip
 G25 Corded Product Adapter (240V)
 G38 Printer Interface(replaces IEEE)
 G39 IEEE-488 Interface
 G40 Scanner Lead Set (8), with Clips
 for G1030S only