

Guardian

USES:

- Production or Compliance Testing of Appliances, Wire, Cable, and Other Electrical Products which have High Leakage Current
- Testing to Safety Standards which Require or Recommend a 500VA Tester
- Testing of Electrical Products Requiring the Application of High AC or DC Voltages
- Testing of Transformers, Coils, and Large Horsepower Motors

FEATURES:

- Programmable Output Voltage to 10KV AC and 12KV DC
- Programmable Ramp and Test Times
- Storage of 50 Tests Setups with 10 Steps per Setup
- Continuous Leakage Current Monitoring
- Trip Current Programmable to 100mA AC and 20mA DC
- Front Panel Lockout via Password
- Remote Control Interface, Standard
- IEEE-488, RS-232 and Printer Interfaces, Optional
- Insulation Resistance Measurements from 100k Ω to 50G Ω
- High and Low Test Limits
- Multi-point Scanner Option for High Voltage Switching (500VA only)

500VA, 10KV AC & 12KV DC Hipot Testers

Introduction

The **Guardian 500VA**, **Guardian 10KV AC**, and **Guardian 12KV DC** are three different Hipot testers designed for specific electrical safety test applications. The Guardian 500VA is intended for high leakage current measurements to 100mA, the 10KV AC for high voltage AC Hipot testing and the 12KV DC for high voltage DC Hipot testing. Additionally the Guardian 500VA and 12KV DC testers include insulation resistance measurement capability. Selecting the right instrument, for the specific application, provides a cost effective solution for electrical safety compliance or production testing.

Description

The **Guardian 500VA** is an economically priced AC/DC Hipot Tester for testing products which have high leakage current. With a programmable voltage range from 50 to 5000V AC and maximum current output of 100mA, the unit is ideal in applications where a product safety standard requires or recommends a 500VA Hipot tester. The instrument's DC dielectric testing capability covers the range from 50 to 6000V DC, with a maximum current output to 20mA for quick charging of capacitive devices. DC leakage current can be monitored down to 0.1 μ A.

The Guardian 500VA also performs insulation resistance (IR) measurements, similar to DC Hipot, except the product's insulation resistance value is displayed directly in ohms. This resistance can be measured over a range of 100k Ω to 50G Ω , at test voltages from 50 to 1000V DC.

In all cases, both high and low limits are operator programmable for quick, and easy pass/fail testing. These dual limits are essential to ensure that the device under test is actually making contact with the tester. For consistent testing, up to 50 setups can be stored in instrument memory for later recall. An optional high voltage scanner is also available for testing multi-connection devices.

Guardian 10KV AC Hipot Tester The Guardian 10KV AC performs AC Hipot testing only over a voltage range of 100 to 10,000V AC. With a maximum current output of 20mA, the instrument is capable of testing capacitive devices at high AC voltages. The 10KV unit contains many of the features of the 500VA Tester, including programmable min/max limits, setup storage, and arc detection.

Guardian 12KV DC Hipot Tester The Guardian 12KV DC performs DC Hipot testing over a voltage range of 100 to 12,000V DC with a maximum leakage current output of 10mA. Additionally, the 12KV tester provides insulation resistance measurement capability over a range 100k Ω to 50G Ω , at test voltages from 50 to 1000V DC.



For more detailed specifications, visit
www.quadtech.com

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

1-800-253-1230

Fax 1-978-461-4295

Intl. 1-978-461-2100



Guardian 500VA

AC Output Voltage:	Range: 50V to 5000V AC, 1V resolution Frequency: 50 or 60 Hz Programmable Waveform: Sinusoidal Regulation: <(1% +5V) at Rated Load
Voltage Display:	Accuracy: +/- (1% of reading + 5V) Resolution: 1Volt
AC Current Display:	Total current Range: 1µA to 100mA AC Resolution: 0.001mA Accuracy: +/- (1.5% + 5cnt)
High/Low Limit Test:	1µA to 100mA AC Accuracy: +/- (1% of limit + 1mA) Low limit can be turned OFF
Arc Detection:	Programmable Level and OFF, 0.001mA/step
DC Output Voltage:	Range: 50V to 6000V DC, 1V resolution Regulation: <(1% +5V) at Rated Load
Voltage Display:	Accuracy: +/- (1% of reading + 5V) Resolution: 1Volt
DC Current Display:	Range: 0.1µA to 20mA DC Resolution: 0.0001mA Accuracy: +/- (1.5% or reading + 5cnt)
High/Low Limit Test:	0.1µA to 20mA DC Low limit can be turned OFF
Arc Detection:	Programmable Level and OFF, 0.001mA/step
Insulation Resistance:	Range: 100kΩ - 50GΩ Accuracy: +/- 5% to +/- 15% depending upon voltage and resistance
Voltage Range:	50V to 1000V DC
Voltage Accuracy:	+/- (1% of setting + 5V)
High/Low Limit Test:	100kΩ - 50GΩ Low limit can be turned OFF

Guardian 10KV AC

AC Output Voltage:	Range: 100V to 10,000V AC, 1V resolution Frequency: 50 or 60 Hz Programmable Waveform: Sinusoidal Regulation: <(1% +10V) at Rated Load
Voltage Display:	Accuracy: +/- (1% of reading + 5V) Resolution: 1Volt
AC Current Display:	Total current Range: 1µA to 20mA AC Resolution: 0.001mA Accuracy: +/- (1.5% + 5cnt)
High/Low Limit Test:	1µA to 20mA AC Accuracy: +/- (1% of limit + 1µA) Low limit can be turned OFF
Arc Detection:	Programmable Level and OFF, 0.001mA/step

Guardian 12KV DC

DC Output Voltage:	Range: 100V to 12,000V DC, 1V resolution Regulation: <(1% +10V) at Rated Load
Voltage Display:	Accuracy: +/- (1% of reading + 5V) Resolution: 1Volt
DC Current Display:	Range: 0.1µA to 10mA DC Resolution: 0.0001mA Accuracy: +/- (1.5% or reading + 5cnt)
High/Low Limit Test:	0.1µA to 10mA DC Low limit can be turned OFF
Arc Detection:	Programmable Level and OFF, 0.001mA/step
Insulation Resistance:	Range: 100kΩ - 50GΩ Accuracy: +/- 5% to +/- 15% depending upon voltage and resistance
Voltage Range:	100V to 1000V DC
Voltage Accuracy:	+/- (5% of setting + 5V)
High/Low Limit Test:	100kΩ - 50GΩ Low limit can be turned OFF

Common Features:

AC/DC Test Time:	Ramp: 0.1 to 99.9s (+/-20ms) and Off Test: 0.1 to 999s (+/-20ms) and Continuous
Remote Control:	Inputs: Start, Reset Outputs: Pass/Fail/Under Test Connector: Terminal Strip and 9 pin D Series
Test Setups:	50 Test Setups with 10 Steps each
Connectors:	Front and Rear Connections (HV & gnd)
Front Panel Lockout:	Password
Safety Features:	Fast Cutoff (<0.4ms) and Fast Discharge
Miscellaneous:	Continuous Voltage on Fail
Indication:	Pass/fail lights, audible sound
Buzzer Level:	1,2,3 and Off
Interface Options:	IEEE488, RS-232 and Printer
Dimensions:	(w x h x d): 17x6.8x17.7in (430x175x450mm)
Weight:	Guardian 500V A 53 lbs (24kg) - Net, 60 lbs (27kg) Shipping Guardian 10kV AC 44 lbs (20kg) - Net, 51 lbs (23kg) Shipping Guardian 12kV DC 44 lbs (20kg) - Net, 51 lbs (23kg) Shipping
Environmental:	Operating: 0 to + 40° C, Humidity: <75% Storage: - 20 to + 70° C Warm-up Time: 1minute
Power:	• 90 - 130V AC • 50 or 60Hz • 200 - 250V AC • 500W max

Ordering Information

Guardian 500VA Hipot Tester	Optional Accessories	S11*	Gun Probe with remote start
Guardian 10KV AC Hipot Tester	Calibration Data	G16*	International Power Strip
Guardian 12KV DC Hipot Tester	S03* Corded Product Adapter (115V)	G25*	Corded Product Adapter (240V)
Includes:	S04 HV Lead Set 2m	G26	RS232 Interface
150514 Instruction Manual	S05 Foot Switch	G27	Rack Mount Flanges
S02 HV Lead Set, 1m	S06* High Voltage Probe	G28	Printer Interface (replaces IEEE 488)
Power Cable	S07* Power Entry Adapter Cable	G29	IEEE-488 Interface
Calibration Certificate Traceable to NIST	S08* Gun Probe	5000-01	Scanner, 8 channel HV (500VA only)
	S09 HV Lead, 1 meter, unterminated	5000-03	Scanner, 8 channel HV, Rack (500VA only)
	S10 HV Lead, 2 meters, unterminated		*maximum voltage rating is 5KV AC & 6KV DC



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