

# Sentry Plus Hipot Testers

## Upgradeable AC/DC/IR Hipot Testers

### 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
- Electric Motor Safety Testing
- Lighting Fixtures Safety Testing

### FEATURES:

- Upgradeable: Add DC and/or IR
- Output Voltage: 5kVAC and 6kVDC
- Leakage Current: 20mAAC, 5mADC
- Resistance Measurements from 0.1MΩ to 50GΩ
- Programmable Ground Continuity from 0.1- 5Ω
- Programmable Ramp, Test & Fall Times
- Store/Recall: 60 Tests
- Ground Fault Interrupt (GFI)
- Fast Discharge of DUT & Fast HV Output Cutoff
- Monitor DC In-Rush Current
- EN 50191 3mA Current Limit
- Pause Mode
- Open/Short Circuit Detection Mode
- Remote I/O Interface
- Large Enhanced Graphical Display
- Front & Rear Output Connectors

### Introduction

The Sentry Plus instruments provide a complete dielectric testing solution. The Sentry 10 Plus for AC Hipot testing, the Sentry 20 Plus for AC/DC Hipot testing and the Sentry 30 Plus for AC/DC Hipot tests plus IR measurements. The large enhanced digital display and user friendly controls of the Sentry Plus instrument allow test parameters and limits to be easily programmed and viewed.

### Description

The Sentry Plus Series units are advanced digital hipots with load and line regulation to ensure measurement integrity. Multistep capability allows the user to perform multiple tests in a sequence with the push of one button.

**The Sentry 10 Plus AC Hipot Tester** performs AC dielectric withstand (hipot) tests. The test voltage is programmable from 50V to 5kV AC with a resolution of 1V. The current range is 1μA to 20mA.

**The Sentry 20 Plus AC/DC Hipot Tester** has all the features of the Sentry 10 Plus in addition to DC hipot capability. The test voltage is programmable from 50V to 6kV DC with a resolution of 1V. The current range is 0.1μA to 5mA.

**The Sentry 30 Plus AC/DC/IR Hipot Tester** has all of the features of the Sentry 20 Plus in addition to Insulation Resistance (IR) testing. The IR measurement range is from 0.1MΩ to 50GΩ with test voltages from 50 to 1000VDC.

**Program & Display Ground Continuity:** The Sentry Plus Series can measure and display the resistance between the ground blade of the power cord and any exposed metal on the product.

**Upgradeable:** With the Sentry Plus Series, it is possible to add DC and/or IR test capability without purchasing a new instrument. The Sentry 10 Plus can be upgraded to a Sentry 20 or 30 Plus and the Sentry 20 Plus can be upgraded to a Sentry 30 Plus.

**Meets UL Hipot Tester Requirements:** The Sentry Plus instruments measure & display the output voltage directly at the output terminals. The instruments have both visual and audible failure indications, and after a failure the STOP switch must be pressed prior to another measurement.

**Open/Short Circuit Mode:** All Sentry Plus 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:*

[www.quadtech.com](http://www.quadtech.com)

800-253-1230



## Sentry 10, 20 & 30 Plus

<b>AC Output Voltage:</b>	Range: 50V to 5000V AC Resolution: 1Volt/step Frequency: 50/60 Hz selectable Waveform: Sinusoidal Regulation: $\pm(1\%$ of setting +5V)
<b>Voltage Display:</b>	Accuracy: $\pm(1\%$ of reading + 5V) Resolution: 1 Volt
<b>AC Current Display:</b>	Range: 0.001mA to 20mA AC Resolution: 1 $\mu$ A Accuracy: $\pm(1.5\%$ of reading + 5cnt)
<b>High/Low Limit Test:</b>	Range: 0.001mA to 20mA AC Low limit can be turned OFF

## Sentry 20 & 30 Plus

<b>DC Output Voltage:</b>	Range: 50V to 6000V DC Resolution: 1Volt/step Regulation: $\pm(1\%$ of setting +5V)
<b>Voltage Display:</b>	Accuracy: $\pm(1\%$ of reading + 5V) Resolution: 1 Volt
<b>DC Current Display:</b>	Range: 0.0001mA to 5mA DC Resolution: 0.1 $\mu$ A Accuracy: $\pm(1.5\%$ of reading + 5cnt)
<b>High/Low Limit Test:</b>	0.1 $\mu$ A to 5mA DC Low limit can be turned OFF
<b>Charging Current:</b>	5mA max
<b>In-Rush Current:</b>	Monitors: 0.5 $\mu$ A - 5mA, OFF

## Sentry 30 Plus

<b>Insulation Resistance:</b>	Range: 0.1M $\Omega$ - 50G $\Omega$ 0.1M - 1G: $\pm(10\% + 5$ cts), <100V 0.1M - 1G: $\pm(7\% + 5$ cts), <500V 1M - 1G: $\pm(4\% + 5$ cts), $\geq$ 500V 1G - 10G: $\pm(7\% + 5$ cts), $\geq$ 500V 10G - 50G: $\pm(12\% + 5$ cts), $\geq$ 500V
<b>IR Output Voltage:</b>	Range: 50V to 1000V DC Accuracy: $\pm(1\%$ of setting +5V)
<b>High/Low Limit Test:</b>	0.1M $\Omega$ - 50G $\Omega$ High limit can be turned OFF

## Common Features

<b>Open/Short Circuit:</b>	Voltage <100V; Frequency: 600Hz Open: 10-100%; Short: 100-500%
----------------------------	---

## Ordering Information

Sentry 10 Plus AC Hipot Tester  
Sentry 20 Plus AC/DC Hipot Tester  
Sentry 30 Plus AC/DC/IR Hipot Tester

### **Includes:**

150697 Instruction Manual  
700070 Power Cable  
S02 Test Leads  
700100 Ground Continuity Lead  
Calibration Certificate Traceable to NIST

### **Optional Accessories:**

Calibration Data  
S02 HV Lead Set, 1m, (std with 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)

## Common Features

<b>Ground Continuity:</b>	Programmable: 0.1 $\Omega$ - 5 $\Omega$ , $\pm$ 0.2 $\Omega$ Current: 0.1A or OFF
<b>Arc Detection:</b>	Arc Level: adjustable OFF or 1mA - 20mA AC & 5mA DC Arc Duration: > 10 $\mu$ s
<b>Indication:</b>	Pass/fail lights, audible sound
<b>Time:</b>	Ramp: 0.1 to 999s ( $\pm$ 20ms), OFF Dwell: 0.1 to 999s ( $\pm$ 20ms), (DC & IR) Test*: 0.1 to 999s ( $\pm$ 20ms), Continuous Fall: 0.1 to 999s ( $\pm$ 20ms), OFF *Test Time $\leq$ 60seconds when VI=100VA *Test Time for IR: 0.3 to 999s ( $\pm$ 20ms)
<b>Fast Discharge:</b>	<0.2s Typical Voltage Discharge across DUT back through the HV transformer
<b>Fast Cutoff:</b>	<0.4ms Typical Cutoff of Voltage on FAIL and when STOP is pressed
<b>Ground Fault Interrupt:</b>	Automatic instrument shutdown for current imbalance >0.5mA $\pm$ 0.25mA
<b>EN 50190 Limit:</b>	3mA AC, 5mA DC or OFF
<b>Standard Interface:</b>	Inputs: Start, Stop and Interlock Characteristics: 24V Active Low, Pulse Width $\geq$ 20ms. Outputs: Pass/Fail/Under Test Characteristics: Dry Contact relay Ele. Characteristics: 115V <300mA Logic: Closed if True Connector: 9 pin Male D-Series
<b>Test Setups:</b>	60 Memory Locations/10 Steps
<b>Connectors:</b>	Front & Rear Connectors (HV and RTN) HV OUTPUT (Custom Banana) RTN/LOW (Binding Post) GC (Binding Post, Rear Only)
<b>Front Panel Lockout:</b>	Key press with or without memory recall
<b>Miscellaneous:</b>	Zero Offset
<b>Dimensions:</b>	(w x h x d):10.8 x 4.0 x 14.0 inches (270 x 100 x 350 mm)
<b>Weight:</b>	<b>Net:</b> 26.0 lbs (12kg) <b>Ship:</b> 28.0 lbs (13kg)
<b>Environmental:</b>	Meets MIL-T-28800E, Type 3, Class 5 Operating: 0°C to + 40°C Humidity: <80% Storage: - 10°C to + 60°C
<b>Power:</b>	•90 - 132V AC +50 or 60Hz •198 - 250V AC +300W max

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

[www.quadtech.com](http://www.quadtech.com) or 800-253-1230

