

Sentry Series Features & Benefits



Figure 1: Sentry Series Hipot Tester

The Sentry 10-35 Series AC/DC/IR Hipot Testers are economically priced instruments with exceptional benefits. Review the features listed here and read on for the benefits they provide.

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| ■ AC Output: | 100V – 5000V AC, programmable in 10V Steps |
| ■ Ground Continuity Check: | Check DUT connection before applying HV |
| ■ Arc Detection with Adjustable Level: | 0.01mA - 15mA AC, 0.01mA – 7.5mA DC |
| ■ Min/Max Current Trip Limits: | 1mA - 15mA AC, 1mA – 7.5mA DC |
| ■ Adjustable Ramp & Hold Times: | 0.1 – 999seconds, user programmable |
| ■ Software Calibration: | Menu Driven Automated Calibration |
| ■ Built-In DC Output (S20/25, 30/35): | 100V – 6000V DC, programmable in 10V Steps |
| ■ Built-In IR Output (S30/35): | 50V – 1000V DC, programmable in 10V Steps |
| ■ Selectable Frequency Output | 50/60Hz, user selectable |
| ■ 3 in 1Tester: | AC Hipot, DC Hipot & Insulation Resistance |
| ■ Front Panel Lockout: | Lock Programming Function, Recall still enabled |
| ■ ASTS: | Software Configurable |
| ■ TUV/CE Listed (S15/25/35): | Meets International Quality Standards |
| ■ Easy to Recall Memory Locations: | Store & Recall of 40/80 user defined test setups |
| ■ Simple Menu Operation: | Intuitive Front Panel Programming |
| ■ Competitor’s Instrument Trade-In Policy: | Replace Analog Hipot with Digital Hipot |
| ■ Rent to Own 60% Policy: | Rent without Capital Budget, Instrument Trial |

Features and Benefits

Feature

Ground Continuity Check

When enabled, the ground continuity feature checks that the resistance between the ground blade of the product and any exposed metal on the case is less than 1 Ω . The ground continuity socket is located on the Sentry rear panel and a GC test cable with alligator clip is supplied standard with the unit. This GC test cable is connected to any exposed metal on the product case. The GND terminal on the front of the Sentry instrument is then connected to the ground blade of the product. When the test is initiated, a constant current source is applied between the rear ground continuity socket and the front GND terminal.

Feature

Adjustable Ramp & Hold Times

Both the AC and DC test voltages can be ramped up over time from 0-999.9seconds to protect sensitive devices from rapid changes in voltage. The test voltage can be applied to a device over a period of time from 0-999.9seconds. The test voltage can also be applied continuously in manual mode by setting the hold time to “---“.

Feature

Programmable Minimum and Maximum Current Trip Limits

Minimum and maximum trip currents can be programmed from 0.01mA to 15mA AC or 7.5mA DC. The maximum trip limit is always active. The minimum trip limit can be disabled. This gives the customer flexibility in the Sentry by indicating a PASS condition if the current is below the maximum trip and minimum trip is disabled, or indicating a PASS only if the current is

Benefit

The ground continuity check allows the customer to determine that the DUT is connected securely before applying high voltage for an AC/DC hipot test. It shows that **the device under test is connected to ground.**

Benefit

Adjusting the ramp/hold times can provide additional test consistency by insuring that the operators are testing the DUT for the required time. **The use of ramp time can also reduce false failures by making sure the test voltage is ramped at a consistent rate.**

within the range from the minimum to maximum trip limits.

Benefit

The maximum current limit sets the pass/fail criterion for the product being tested. The low limit or minimum current limit provides an easy way to determine if the DUT is connected and the power switch is on. Without a low limit it would be possible for bad products to be passed even though no test was performed if the high voltage or return wire is broken or a bad fixture is used. Use of low limit can reduce this possibility.

Features and Benefits

Feature

Arc Detection

This detects short duration current transients caused by arcing in the device under test as compared with the maximum and minimum current limits that monitor the steady state current flow. The Sentry arc function detects transients with a duration of 10ms or greater. The sensitivity of the arc detection can also be adjusted from 0.01mA to 15mA AC or to 7.5mA DC.

Benefit

Arc detection provides a consistent non-subjective method of determining if arcing is occurring in a product. Long-term exposure to arcing can damage polymers and potentially result in early field failures.

Feature

The Sentry 15/25/35 Series is **TUV & CE Listed**.

Benefit

QuadTech feels it is important to **design and manufacture electrical safety instruments that pass the rigorous TUV & CE safety testing standards.**

Feature

Remote Control

The Sentry instrument provides remote START, STOP and INTERLOCK active low inputs. The outputs indicating PASS, FAIL and UNDER TEST are via dry switch contacts that are closed if true.

Benefit

The remote is an easy method of connecting the Sentry instrument to a logic controller, light bar, foot pedal or other controller. Although the Sentry provides both visual and audible indication of failure, additional indication may be required on the Production Line. **The remote connector provides the pathway for logic-controlled operation.**

Feature

Load and Line Regulation

The Sentry Series hipot testers automatically monitor the output voltage and adjust the voltage at the output to insure the test voltage is within 1% of the programmed value. Digital hipot testers are not affected by changes in line voltage.

Benefit

Load and Line Regulation **ensures that the test results remain consistent.** It also ensures that the customer tests to the correct voltage required by the applicable Electrical Safety Testing (EST) Standard.

Feature

40/80 Memory Locations

The Sentry Series hipot tester provides 40 2-Step test or 80 1-step test memory locations for storage of test setups.

Benefit

Storage & recall of test setups provides an easy method for operators to recall different test setups without having to reprogram the unit. **This saves precious production line test time and reduces the possibility of operator programming errors.**

Features and Benefits

Feature

Automatic Offset

The Sentry Series hipot testers can automatically perform a measurement with no DUT connected measure the leakage current and automatically subtract this leakage current value from future measurements.

Feature

Three Models to Choose From

There are 3 Sentry Series Models to choose from: the Sentry 10/15: AC Hipot, the Sentry 20/25: AC/DC Hipot or the Sentry 30/35 AC/DC/IR Hipot Tester.

Feature

Connection to Sentry 50

The Sentry Series hipot testers can be connected to the Sentry 50 Ground Bond Tester for a complete electrical safety testing station.

Feature

Trading in of competitor's instruments

toward a new QuadTech digital hipot tester.

Feature

QuadTech offers an impressive **rent to own program** where for as little as 10% of the purchase price of the equipment per month the customer can rent any one of our instruments for any amount of time. 60% of the rental fee can also be applied toward purchase of the instrument.

Benefit

Automatic Offset can eliminate errors due to fixturing and cabling. This is especially important when performing an AC hipot test on a DUT where the leakage current is small compared to the leakage current due to the test cables of test fixture.

Benefit

This allows the customer to choose the instrument that meets his specific test requirements and application. Choosing a model with more than one test provides the customer the flexibility of multiple tests.

Benefit

Adding the Ground Bond testing capability allows the customer to expand his equipment as testing requirements change. Measuring the integrity of the ground connection provides a better simulation of how the product will perform under an actual fault condition.

Benefit

The customer can replace his existing analog hipot testers with **digital hipot testers that are much safer and provide a wider variety of modern features.** It also allows the utilization of outdated instruments by reducing the initial cost of a digital tester.

Benefit

The customer can rent the instrument and begin using it in production even if no budget is available for capital equipment. **“Meet today’s production needs without a capital budget”. The opportunity to try out the instrument long term with no strings attached before they purchase.**

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