QuadTech

Application Note

What's Changing in Appliance Hipot Testing and Why

Voltage breakdown is the one test required on every household appliance before it leaves the factory. The purpose being to ensure that the user never serves as a current path to ground due to faulty insulation or grounding systems within a product. User safety is always the overriding concern with appliance manufacturers.

The sudden application of voltage can easily damage electrical components. This is preventable using a hipot tester with programmable ramping where a sinusoidal signal can be applied gradually and maintained under varying load conditions. The transition to automatic testers is eliminating all the uncertainties associated with turning knobs and adjusting pots. Appliance manufacturers really want to "set and forget", meaning simple programming of test voltage and current limits. Probe the device, press the test button and observe the pass/fail results. All this is possible using a tester with internal memory to eliminate the guesswork and provide consistent testing time after time. And no more overlooking those hidden, short duration current spikes that are just as dangerous to the user and usually worsen with time. Arc detection should now be standard equipment on any hipot tester in use today. And finally, hipot testers have lagged other instruments when it comes to computer interface using IEEE-488. Archiving of test data for product reliability requirements is becoming just as important here as anywhere. The bottom line is that hipot testing is here to stay, and now there are added ways to make it easier, better and faster.

What's New With Electrical Safety Appliance Testers

In electrical safety testing increased emphasis is being placed on integrity of test, automation, cost considerations and operator safety. The days of turning knobs and adjusting pots on antiquated equipment is phasing over to automated testers with electronic voltage ramping, storage of test programs, multiple test point scanning and digital display monitoring of test activity. This ensures efficient, consistent product testing time after time. Appliance safety testing now goes far beyond the traditional voltage breakdown test. Insulation resistance tests and high current ground bond tests, driven by various agency regulations, are becoming more commonplace in the worldwide household appliance market. Multi-function instruments with sequentially testing capability, arc detection, fast continuous probing, and data logging are just a few of the requirements needed by many of today's appliance manufacturers.

Telephone: 1- 800-253-1230, Website: http://www.quadtech.com
Printed in U.S.A. P/N 035021 November 2000