

Introducing the newly redesigned Tester for Surge Suppression Devices

SST-450

Surge Suppressor Tester



The ATSI SST 450 Suppressor Tester is designed to quickly and easily test all commonly used transient voltage suppressors: metal-oxide varistors (MOVs), gas-discharge tubes (GDTs), silicon avalanche diodes (SADs), thyristor surge protective devices (TSPDs), and hybrid devices.

The tester's 1mA DC current source up to 1000 volts has both peak and average-reading detection to provide complete test parameters for both crowbar and clamp devices. Measurements are displayed with a 0.1V resolution. The tester is capable of testing suppressors with a filtering capacitor up to 200 μ F.

The tester is housed in a handheld carrying case weighing less than 2 pounds. The 16 character by 2 line LCD displays the battery level in percentage format. To conserve battery life, the unit automatically turns the power off when not used for more than 30 seconds.

- Quickly determine whether a suppressor is functional. Most readings obtained in under 5 seconds.
- Battery operated with auto power off. Portable for field or bench testing. Batteries last up to 5000 tests.
- Track degradation of field-installed suppressors due to the everyday spikes and surges that exist in every power grid.
- Accurate for use with protection devices from low-voltage signal and communication lines (8 to 16 volts nominal) to units designed for highway lighting mains and equipment at industrial utilization voltages (440 VAC and above).
- Adapter package available for SHA-1250 and Type 642 plug-in suppressors. Custom adapters made upon request.
- Detailed operating instructions and test leads included.
- Protected by a 12-month manufacturer's warranty.



Athens Technical Specialists, Inc.
8157 US Route 50
Athens, OH 45701
Phone: (740) 592-ATSI (2874)
Fax: (740) 594-2875
E-mail: sales@atsi-tester.com

Visit our website: www.atsi-tester.com

Surge suppressors protect valuable equipment from everyday voltage spikes and the inevitable effects of nearby lightning strikes. The most common type of suppressor, the MOV, gradually loses the ability to protect from the natural action of these damaging voltages. If left unchecked, the equipment will be damaged from overvoltages sooner or later. It's like changing the oil in your car engine: If you don't do it, it will cost you plenty in the long run. Check suppressor capability after three years of service and also after nearby lightning strikes. The SST-450 makes it quick and easy to add this important test to your preventive maintenance program.

ENGINEERING SPECIFICATION

1. The tester shall measure the parameters needed to assess the capabilities of the widest possible range of transient voltage suppressor types.
2. The tester shall be lightweight, portable and battery-operated, using two commonly available 9V alkaline batteries.
 - 2.1. The tester shall weigh less than 2 lbs.
 - 2.2. The tester shall be housed in a handheld carrying case.
 - 2.3. The tester shall include a 16 characters by 2 lines LCD display.
 - 2.4. The battery level shall be reported on the display.
 - 2.5. The tester shall perform a self-test during power-up.
3. The tester shall be able to test the following suppressor types:
 - Metal-oxide varistors
 - Gas-discharge tubes
 - Silicon avalanche diodes
 - Thyristor surge-protective devices
 - 3.1. The tester shall be able to test suppressors with a filtering capacitor up to 200 microfarad.
 - 3.2. The tester shall be able to detect at a capacitive load greater than 10 microfarad.
 - 3.3. The tester shall be able to perform up to 5000 tests with fully charged batteries.
4. The tester shall have an open-circuit voltage of 1000V with fully charged batteries and a short-circuit current capability of 1mA.
 - 4.1. The tester shall be clearly labeled as producing dangerous high voltages.
5. The tester shall simultaneously measure the peak and average DC voltage across the device under test.
 - 5.1. The tester shall have one button marked "FORWARD" for measuring the forward polarity peak and average voltage.
 - 5.2. The tester shall have one button marked "REVERSE" for measuring the reverse polarity peak and average voltage.
 - 5.3. The tester shall be able to detect a short circuit.
 - 5.4. Accuracy of measurements of the average DC voltage shall be $\pm(0.05\% \times \text{reading} + 0.1V)$
 - 5.5. Accuracy of measurements of the peak voltage shall be $\pm(0.5\% \times \text{reading} + 1.0V)$
 - 5.6. The average DC voltage shall be displayed with 0.1V resolution.
 - 5.7. The peak DC voltage shall be displayed with 1.0V resolution.
6. The tester shall have a separate ON button marked "ON" and a separate OFF button marked "OFF".
 - 6.1. The tester shall automatically turn the power off when not used for more than 30 seconds.
7. There shall be voltage present on the test leads only during the test.

"Why bother to check those old surge suppressors anyway?"

(Heard from the back of the room)

Faulty surge suppressors can cause problems ranging from intermittent communications failures and scrambled control programs to catastrophic equipment damage from lightning-induced voltage spikes. Testing and replacing surge suppressors saves your agency money by reducing "nuisance calls" and problem diagnosis time, as well as the repairs and/or replacement of damaged controllers, monitors, and power supplies in your cabinets. Why bother?

The answer is to save money and headaches!



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