



Automation Technology's model S-100 Portable Automatic Surge and Corona Test System indicates the quality of the magnet wire insulation and the consistency of the manufacturing process by analyzing the inductance of the part under test while a high voltage potential is present between the turns of wire. The System can detect possible manufacturing variations or faults, insulation faults and variations in materials. The system includes a Corona Inception Voltage test and many of the features of our standard STS-3800 Stator Test System. The S-100 can be used on the production line, in repair areas and in the laboratory.

Automation Technology's method for Surge testing actually measures the time period ("Ring Time") of the surge discharge waveform. This method provides accurate test data that is not distorted by operator judgment and requires no interpretations of waveforms. Results are not affected by fluctuations in line voltages.

The S-100 will automatically surge 1, 2 or 3 coils sequentially in the forward or forward & reverse directions without changing lead connections and simultaneously display all of the test results. All Surge Modes and a Corona test are selectable from the front panel push buttons. Surge values are displayed in real numbers. This eliminates possible errors of reading the "Scale" of a scope and multiplying the "Volts per Division". ATI's method of surge testing improves the accuracy and sensitivity of the test results. The values displayed also simplify the recording of the test results for future comparisons. The test voltage is displayed digitally for easy adjustment.

Faults detected include turn to turn shorts, phase to phase shorts and phase to core shorts. The test can also detect variations in the stator core (stack size, lamination material and annealing). Variations in the manufacturing process (winding and forming) can also be detected due to the sensitivity of the system. A corona inception voltage test can be performed during the standard surge test. Automation Technology's method detects the high frequency component on the surge discharge waveform. No null adjustments or compensation is required. If the system recognizes a Corona fault, at the selected voltage, a "C" is displayed on the readout with the surge value of the coil and the direction of test that the fault occurred. Corona can be detected on turn to turn, phase to phase and coil to core.

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# S-100