

# AutoISO Plugging into Time Savings and Accuracy for Cable Testing

**It's Time for Faster, More Reliable Acceptance Testing**



Cables and other parts of electric network have been fitted and your system is ready to be energized. Before you energize the lines, you have to run acceptance tests.

This is a good idea. When the project is wired up, you have not installed problems that will make life difficult later and create a mountain of costs for the build's owner. Then, before the cable is ready to run power, then more time is needed for testing to make sure that the insulation was not compromised during installation.

Once the project is up and running, you may be back from time to time for tests to make sure the cable is holding up under conditions that might offer up excess heat, vibration and even damage. Or, you might be the on-site the electrician who has to do this job.

If you have done this testing right, you have an accurate record of the condition of the

insulation from the start. When you or the in-house electrician come back to test the cable later on, you have a bench mark to track any deterioration, which is usually gradual. At any rate, acceptance testing is an installation/maintenance fact of life to avoid major headaches down the road.

Though acceptance testing is important, as you know it is time-consuming, tedious and error-prone. You've done these tests many times

before. The test involves applying a test voltage with a meter. To make the measurement, connections are made between the metallic conductor and the outer jacket, or from the conductor to ground if the cable has an armored shield.

Here's the problem. Testing many cables in a day, whether are in a storage area prior to installation or are already installed, can be extremely time-consuming. Multi-conductor cables require a specific method of measurement to go through all of the combinations in order to measure the measure resistance between each pair of conductors.

These many combinations make for scores of opportunities on a large job site for mistakes in a workplace that have a lot of distractions.

## Taking the Time and Errors out of Acceptance Testing



for each set of conductor pair insulation tests.

**THE AutoISO TAKES OVER** The meter operator simply chooses the test voltage and the method of measurement, connects the test clips to the cable conductors, and then presses the START button. Whichever Sonel insulation test meter you are using (MIC-10s1, or MIC-05s1), the meter controls the adaptor. When connected, the insulation meter automatically detects the AutoISO adaptor and the meter switches to the automatic measurement mode.

To help you move things along on the job site and yet feel good that the job of acceptance testing has been done properly, Sonel offers the AutoISO 5000 adaptor.

This device works in conjunction with the Sonel MIC-05s1 (5kV) and MIC-10s1 (10kV) insulation test meters, by making the testing of multi-conductor cables automatic. The AutoISO 5000 adaptor eliminates those possible and all-too-often reconnection errors. You can test all conductor pair combinations on the project without worry while improving your productivity.

Here's how the AutoISO 5000 adaptor works:

**CLIP THEM ONCE** The unit has five test clips to connect up to five conductors, enabling the operator to make the connections just once. You do not have to un-clip and re-clip

The unit is programmed to sequence through all the conductor-to-conductor combinations, and each conductor to ground. Best of all, the adaptor eliminates missed tests.

**INSTANT RECORD KEEPING** The insulation tester saves all testing results in memory. Download the data later to a PC for reports and analysis. You can record results for each set of tests to verify that the tests were conducted. For future analysis, the data is stored in the meter's memory by pressing the ENTER button.

**COMPLETE INFORMATION** The AutoISO adaptor allows thorough measurement of multi-conductor cables with test voltages up to 5kV. The process automatically measures all pairs of conductors.

For your safety, the cable is always automatically discharged after the

## Acceptance Testing Done Reliably – and Fast



Once the AutoISO is plugged into the test meter, the process is automatic

The AutoISO adapter saves time and money by reducing the number of manual connect and re-connect operations of test leads. When the test leads are connected you don't have to worry about errors, such as missing a conductor pair or testing a pair. You don't have to keep track of the pair combinations you are testing because the AutoISO does it for you.

Testing is easy and fast. Using the standard manual method, the average time to test a four-conductor cable, if just performing a short insulation test for each pair, is approximately five to six minutes. The AutoISO automatic method reduces this time to under two minutes. You can recognize that for larger projects the savings are huge.

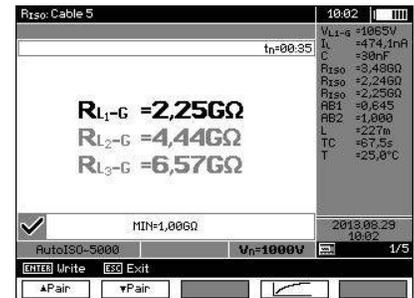
Total test time also depends on how many tests are chosen. If the operator includes all tests such as leakage current, dielectric absorption ratios, polarization index, capacitance, length and temperature; running though all of these could take up to ten minutes per conductor pair (polarization index measurement needs several minutes). A four-conductor cable would require almost one hour for all tests.

Though spending minimal time on these tests is a big plus on the job site, so is knowing that they have been done correctly. The project benefits through eliminating connection errors,

ensuring that all conductor pairs are tested, and preventing circuit failures in the future, along with costly maintenance and perhaps cable reinstallation.

In addition, improperly grounded wires can result in inaccurate test results. The AutoISO's design automatically prevents this problem from happening.

The AutoISO a5000 adaptor is the only device available for efficient, error-free acceptance testing.



Test results are recorded instantly with a press of the ENTER button