Megohmmeter Model 1060:
Working with the DataView© Megohmmeter Control Panel

This Application Note explains how to download test data from a Megohmmeter Model 1060 to a computer, using AEMC's DataView© software. We assume DataView with the Megohmmeter Control Panel has been installed on the computer. The Control Panel is the primary interface for connecting with the Model 1060, downloading test results, and viewing the data on the screen.

You can also use the Control Panel to set up tests, view measurement data in real-time, and configure the instrument.

1. Connecting the instrument

The Model 1060 communicates through an RS-232 serial cable that comes with the product.

1. Insert one end of the cable into the instrument, and the other into the computer.

2. Turn the instrument ON by turning the dial to any setting.

3. Start the Megohmmeter Control Panel by opening the DataView folder on your desktop and clicking the Megohmmeter icon. When the Control Panel is open, the Connection dialog box appears; which enables you to select the communication port and communication rate.

4. Select the port number from the Communications port drop-down list. Then select the communication rate. For the Model 1060, the default rate is 9600. This can be changed on the instrument; if you do so, ensure the rate you select in the Control Panel matches the instrument.

5. When you have completed both fields in the Connection dialog, click OK.

The Control Panel now connects to the instrument. When this is completed successfully, the word "Connected" appears in the lower right corner of the Control Panel status bar.

2. Running a test on the instrument

A powerful feature of DataView is its ability to set up and run a test from the computer. You can configure the test, and view measurements as they are made in real-time. You can then save the recorded test, and format its data as a report or spreadsheet.

To configure the test, ensure that the instrument is powered ON. Then do the following:

1. Select Instrument in the menu bar and click Configure. The Configuration dialog box appears. This is the main interface for configuring the instrument through DataView.
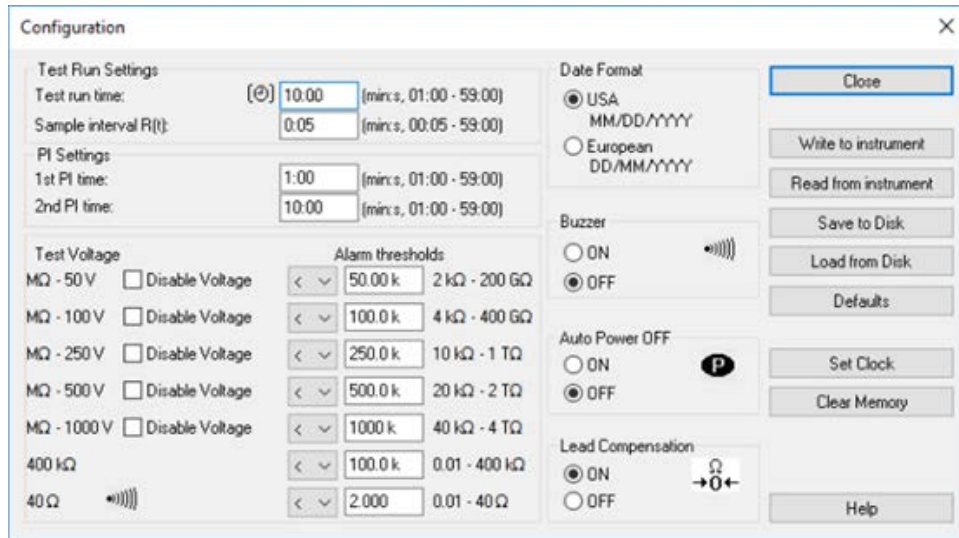
2. Select the test duration. This can be from 1 minute up to 59 minutes.

3. Select the sample interval. This determines how often during the test the instrument will save a measurement result.

4. The Configuration dialog box includes a number of other fields for setting features such as the calculation used to determine polarization index, alarm thresholds, lead compensation, and other features. These are all described in detail in the Help system that comes with the DataView Megohmmeter Control Panel. When finished, click Write to Instrument to update the instrument configuration, then click Close.

5. With the setup complete, you can now start the test. Click Run Test in the navigation frame to display the Run Test dialog box.
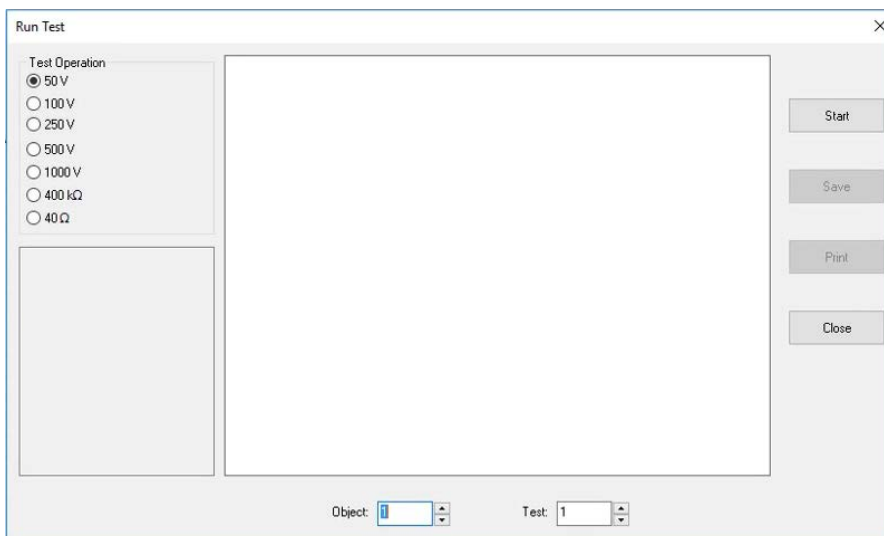
6. On the left side is a list of available test voltages from which you can select. Note that these will override the voltage selection indicated by the instrument's dial. You can also set a limit on allowable test voltages by disabling higher voltages via in the Configuration dialog box, as explained in the Help system.

7. At the bottom are the Object and test numbers under which the test will be stored. These are derived by incrementing the Object and Test combination of the most recent test stored in the computer's memory. If no tests are in memory, by default the test will be stored as Test 1 in Object 1. To change this setting, use the Up and Down buttons next to the fields.

8. To start the test, click the Start button. After a few moments, real-time measurements are displayed as a graph in the center of the dialog box. In the lower left is a table showing the total duration of the test, the time remaining, the test voltage, most recent resistance measurement, and values for DAR, PI, and Capacitance. The DAR value appears after one minute, while PI and capacitance will appear at the completion of this test.
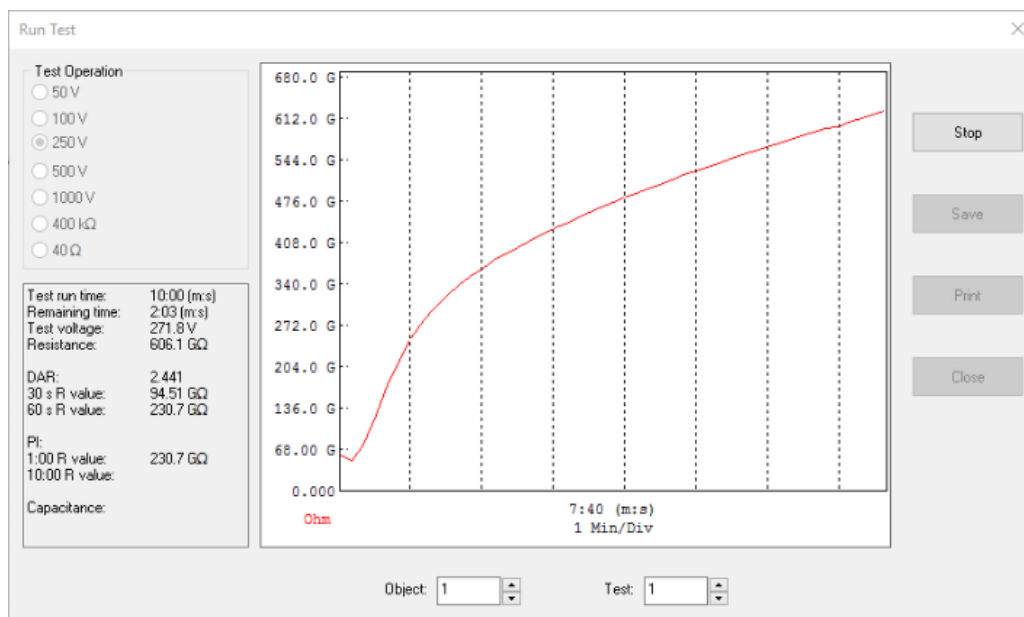
As the test progresses, the graph assumes the characteristic shape of the timed resistance test. In the preceding illustration the graph indicates that the test specimen, in this case a short wiring run, has adequate insulation. It also indicates that we have selected an appropriate test voltage. If instead the graph quickly rises to the top of the display and measurements are listed as out of range, stop the test and run a second test at a higher test voltage.

You can print the displayed graph by clicking the Print button and completing the Print dialog box.

3. Viewing and saving test results

1. To save the test, click Save. When you close the Run Text dialog box, saved tests appear under Data Files in the navigation frame.

2. When you open the test, you can augment its data by clicking Edit in the menu bar and then selecting the Edit option. This displays the Session Summary Properties dialog box. This dialog box consists of four tabs:

   Test lets you enter explanatory information. For example, you can enter a more meaningful name, a one-line description, and additional descriptive comments.

   Object lets you change the name of the object in which one or more tests are stored.

   Operator enables you to enter information about the person who conducted the test. Initially this tab is blank. To enter data, click the Edit button near the bottom of the screen. You can enter a name, or choose from a list of previously created operator records. When this tab is complete, click OK.

   Site lets you enter data about the location where the test was performed. As with the Operator tab, you can complete the displayed fields, or select an existing name from the site list.

3. You can now view the complete test record. This includes information about the test operator, the test site, the instrument model and other test-related information, the test measurement data itself, and finally any additional comments. To save the complete updated test on the computer, click File in the menu bar and select Save. You will be prompted to enter a file name for the saved test data.

4. Downloading tests
You can also download tests stored on the instrument itself. To do this:

1. Click Instrument in the menu bar and select Download. After a few moments, the Select Tests dialog box appears. This lists all tests currently stored in the instrument.

2. You can download individual tests by selecting them, or use the Select All button to select all tests in the instrument's memory. Make your selection(s) and click Download.

3. When the download is complete, the navigation pane on the left side of the Control Panel window lists the object name, as well as any tests contained within the object. Clicking on the name of the test displays its measurement data in the data frame on the right side of the Control Panel window.
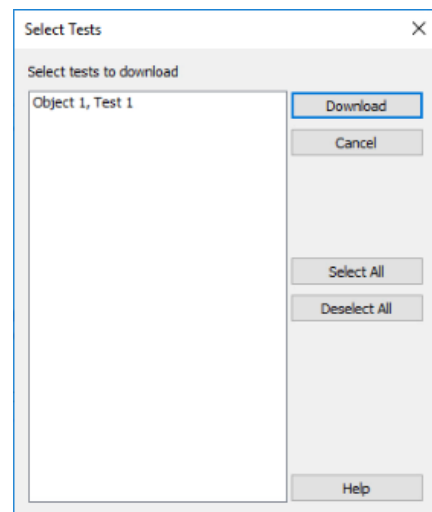
5. Generating reports

Another important feature of DataView is its ability to generate reports from test data stored in objects.

1. Select the object in the navigation frame. All tests stored in the object are listed in the data frame.

2. Choose each test to include in the report by clicking its checkbox in the Add to Report column. You must have at least one test selected to create a report.

3. Click File in the Control Panel menu bar and choose Create DataView report. You are asked to enter a filename for the report data, with the extension .dvb. Enter the filename and click Save.

4. The Address Book dialog box appears, allowing you to change the operator and site information for this report.

5. DataView now creates a report from the selected test data. By default, this report consists of a Cover Sheet, a page for each selected test, and a Test Summary worksheet. To save the report to the computer, click File when viewing the report, and then click Save and specify a location for the saved report file.

Note that DataView includes a number of features that enable you to customize your reports, displaying your test results for a wide variety of users and purposes. These report generation features are described in detail in the DataView Help.