

The Pro4 provides simple answers to sheet and bulk resistivity measurements. Since 1968, Lucas-Signatone has offered an inline four point probing solution. To make the measurements, the user lowers the four-point probe head onto sample then selects the *Test* button in the software. The computer automatically controls the Keithley 2400 series and steps through a number of current settings to find the ideal current for accurate readings. A V/I measurement is taken and recorded. The system uses the Dual Configuration test method of ASTM Standard F84-99 to compensate for errors in probe spacing and errors caused by proximity to the edge of the conducting layer. NIST traceable calibration standards are available for purchase with the system. Proper use of the standards and the calibration procedure insures the specified system accuracy of better than 1%. The standard range of the system is 1 miliohms to 1.2 Megohm per square.

The Pro4 system includes four components; Keithley 2400, four-point probe head, Pro4 software, and Pro4 stand.

Four Point Probe heads



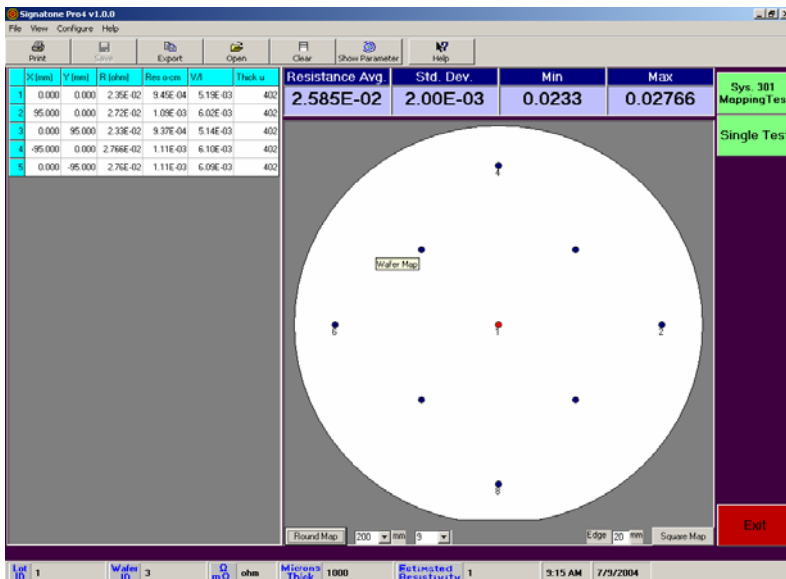
The SP4 is a low cost disposable inline probe made of Delrin and used in most applications. Several choices are available for configuration to your specific application. The three spacings available are .040, .050 and .0625 inches. The three pressures available are 45, 85, and 180 grams. Tips are made of Tungsten Carbide or Osmium and a choice of .0016, .005, .010 inches radius. The Pro4 includes two bayonet type quick disconnects to make changing the probe head easy.

Pro4 Probe Stand

The new Pro4 stand includes several features to assure accurate resistivity measurements. A swing arm with micro switch assures the probe head is moved straight up and down and current is not applied until the probe head is adequately contacted the sample. A fine 'Z' adjustment knob on the right side raises or lowers the probe head a range of 20mm to set-up testing on the sample. A bayonet style quick mount allows for easy changing of the probe head. The sample to be tested is mounted onto a Teflon chuck and easily pushed to position. The stand is available in 100, 150 and 200mm configurations. The stand is pre wired and ready to connect to the Keithley 2400 Sourcemeter.



Pro4 Software



The Pro4 software manages the tests, displays results and allows printouts or export of the data. The user inputs the size and shape of the sample, edge exclusion and number of points to be tested. The user may also define pass/fail criteria and which parameter (Sheet Resistance, Resistivity, or V/I) to display. A graphic picture of the target probe points is displayed. Prompts tell user to move to the next position. Upon completion of testing all points, the average, standard deviation, minimum and maximum are prominently displayed. Upon completion, a summary report may be printed showing the data and pass/fail status.

Ordering Information

Pro4 software must be run on a computer with Windows 2000 or Windows XP Professional. The computer must have an RS-232 port available. Lucas Labs offers two computers to choose from, a laptop or industrial rack style computer with the Keithley meter mounted in the rack as well. Two SP4 probe heads are included in the system along with bayonet mounts.



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