Digital LCR Meter

- GPIB Available for Fully Automatic Testing
- Offset Function Cancels Fixture Resistance, Inductance and Capacitance
- External Bias Provision

LCR-745 (G)

The LCR-745 is a CPU controlled digital LCR meter with automatic and manual ranging. Direct resistance, capacitance and inductance measurements of components or equivalent series and parallel circuits can be made with Quality (Q) and Dissipation factor (D) displayed simultaneously with inductance and capacitance. The unit's wide automatic measurement range greatly reduces the time associated with performing these component measurements compared with a manual LCR bridge. This makes the LCR-745 an ideal instrument for incoming inspection or final production test of components where ease of operation and high throughput are necessary.

An offset function is available which can be used to cancel any residual resistance, capacitance or inductance of the test leads or fixtures being used. In addition, the offset function can be used to normalize the value of a component under test to zero. The deviation (including polarity) from this normalized value of succeeding components will be displayed simplifying testing.

Two test frequencies, 120 Hz and 1 kHz are available, facilitating the testing of electrolytic capacitors. In addition, an external dc bias in the range of 0 to +30 V can be applied; an internal bias of +1.5 V is available. Basic measurement accuracy is ± 0.35%. Also, existing LCR-745 units may be converted to the GPIB model. Consult the factory for details.

Test Fixtures (Optional)

- **LF-2350**
  - The LF-2350 test fixture has a 1 meter long test cable terminated in gold plated Kelvin clips for component testing. It facilitates the testing of components with large terminals such as electrolytic capacitors. A guard clip is provided.

- **LF-2351**
  - The LF-2351 test fixture has low insertion force connectors for the rapid testing of both axial and radial lead components without having to bend the leads. This makes it ideal for incoming inspection use.

- **LC-2067**
  - LC-2067 1 meter GPIB Cable
  - LC-2068 2 meter GPIB Cable

Specifications: See page 90
## LCR-745G Digital LCR Meter

**Measured Parameters**
- Resistance
- Capacitance/Dissipation Factor
- Inductance/Quality Factor

**Resolution**
- **Inductance**
  - 1 kHz: 0.1 μH - 199.9 H in 7 ranges, 3½ digits
  - 120 Hz: 0.001 mH - 199.9 H in 6 ranges, 3½ digits
- **Capacitance**
  - 1 kHz: 0.1 pF - 1999 μF in 8 ranges, 3½ digits
  - 120 Hz: 1 pF - 1999 μF in 7 ranges, 3½ digits
- **Resistance**
  - 0.001 Ω - 19.99 MΩ in 8 ranges, 3½ digits
  - Dissipation
  - 0.001 - 1.999 in 8 ranges, 3½ digits

**Quality**
- 0.5 - 99.9 in 8 ranges
- 3 digits

**GENERAL**
- **Measurement Method**
  - 2, 4 or 5 terminal
- **Measurement Mode**
  - Auto, series or parallel

**Measuring Time**
- Auto-ranging
- < 0.2 s - 2 s maximum

**Manual Ranging**
- Maximum time within correct range.
  - See chart.

<table>
<thead>
<tr>
<th>Parameter(s)</th>
<th>Test Frequency</th>
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<tbody>
<tr>
<td></td>
<td>120 Hz</td>
</tr>
<tr>
<td>RLC</td>
<td>0.4 s</td>
</tr>
<tr>
<td>L and Q</td>
<td>0.6 s</td>
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<tr>
<td>C and D</td>
<td></td>
</tr>
</tbody>
</table>

**Power Requirements**
- 100, 120, 220, 240 V ac ± 10%
- 50/60 Hz, 26 VA

**Physical**
- **Size (W x H x D)**
  - 15¾ x 4 x 11¾ in.
  - 400 x 100 x 300 mm
- **Weight**
  - 12 lbs, 5.5 kg

## LDC-822 80-MHz Frequency/Period Counter

**Frequency Measurements**
- **Range**
  - 10 Hz - 80 MHz

**Gate Time**
- 0.1, 1, 10 s

**Resolution**
- 0.00001 MHz - 80.0000 MHz
- 10 Hz - 80 MHz

**Gate Time**
- 0.1 s
- 0.00001 MHz - 80.0000 MHz
- 10 Hz - 80 MHz

**Accuracy**
- ± 1 count
- ± time base accuracy

**Period Measurement**
- 100 ms to 1 μs

**Multiplication Factors**
- Times 10, 100 and 1,000

**Resolution**
- 10, 1, 0.1 μs

**Accuracy**
- ± 1 count
- ± time base accuracy
- ± trigger error

**Input Section**
- **Sensitivity**
  - 20 mV rms

**Attenuator**
- Times 1, 10 and 100

**Coupling**
- AC

**Impedance**
- 1 MΩ nominal

**Maximum Input Voltage**
- 100 V rms at 10 to 400 Hz into 1 MΩ
- 20 V rms at 400 Hz to 100 kHz into 1 MΩ
- 5 V rms at 100 kHz to 80 MHz into 50Ω

**Time Base**
- **Frequency**
  - 10 MHz
- **Accuracy**
  - 5 ppm (0 - 40°C)
- **Aging Rate**
  - 5 ppm/yr.

**General**
- **Display**
  - 7 digits, 0.5" fluorescent with overflow, gate and zero blanking
- **Operating Temperature**
  - 0 - 40°C (32 - 104°F)
- **Power Requirements**
  - 100, 120, 220, 240 V ac ± 10%
  - 50/60 Hz, 10 VA

**Physical**
- **Size (W x H x D)**
  - 8 x 3 x 10 in., 203 x 76 x 254 mm
- **Weight**
  - 5 lbs, 2.3 kg

**Supplied Accessory**
- BNC to Alligator Cable