Introduction

Congratulations on your purchase of Extech’s Model 380580 Battery Powered Milliohm Meter. This device offers five resistance ranges with resolution as low as 0.1mΩ. The 4-wire Kelvin clip connection ensures optimum accuracy. Typical applications include transformer, motor coil, and PC Board resistance measurements. This professional meter, with proper care, will provide years of safe reliable service.

Specifications

General Specifications

- Display: 1.0” (25 mm) LCD (1999 counts)
- Measurement terminals: 4-Terminal Kelvin type
- Measurement Range: Five ranges (see listing below)
- Sampling Time: Approximately 3 times per second
- Over input indication: Indication of "1 - - -"
- Operating Temperature: 5°F to 131°F (-15ºC to 55ºC)
- Operating Humidity: <80% RH
- Power Supply: 8 x 1.5V AA Batteries
- Weight: 3.3 lbs (1.5kg)
- Dimensions: 9.8x7.5x4.3” (250x190x110 mm) with cover

<table>
<thead>
<tr>
<th>Range</th>
<th>Resolution</th>
<th>Test Current</th>
<th>Accuracy</th>
<th>Open Circuit Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>200.0mΩ</td>
<td>0.1mΩ</td>
<td>100mA</td>
<td>± 0.5% + 2 digits</td>
<td>4.2V</td>
</tr>
<tr>
<td>2000mΩ</td>
<td>1mΩ</td>
<td>100mA</td>
<td>± 0.5% + 2 digits</td>
<td>4.2V</td>
</tr>
<tr>
<td>20.0Ω</td>
<td>0.01Ω</td>
<td>10mA</td>
<td>± 0.5% + 2 digits</td>
<td>4.2V</td>
</tr>
<tr>
<td>200.0Ω</td>
<td>0.1Ω</td>
<td>10mA</td>
<td>± 0.5% + 2 digits</td>
<td>4.3V</td>
</tr>
<tr>
<td>2000Ω</td>
<td>1Ω</td>
<td>1mA</td>
<td>± 0.5% + 2 digits</td>
<td>4.4V</td>
</tr>
</tbody>
</table>

International Symbols

⚠ This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.

⚠ This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present

☐ Double insulation
**Meter Description**

1. Current Terminals
2. Potential Measurement Terminals
3. LCD Display
4. Start/Stop Test Button
5. Range Select/Power Switch
6. LED Error Lights
   - No Test/Over Temperature
   - R<sub>C</sub> Voltage Regulation
   - R<sub>P</sub> Current Regulation
7. Current/Range Table

**Leads**

Current Leads- Banana plug to alligator clip
   - C1- Green
   - C2- Blue

Voltage Potential Leads- Banana plug to alligator clip
   - P1- Red
   - P2- Black

Kelvin Clips- Banana Plugs (2) to Kelvin Clip
   - Red (P1) Green (C1)
   - Black (P2) and Blue (C2)

**Measurement Considerations**

1. Do not apply voltage to the meter input terminals. Meter damage may result.
2. Always insure that the circuit to be measured is switched OFF, isolated and completely de-energized before connecting the test leads.
3. If the Over Temperature LED (NO TEST) indicator is lit, allow the instrument to cool down before proceeding further.
4. The R<sub>C</sub> led indicates when the test current falls out of regulation. Selecting a higher range may eliminate the condition.
5. The R<sub>P</sub> led indicates when the voltage on the device under test is too high. Selecting a lower range may eliminate the condition.
6. If either the R<sub>C</sub> or R<sub>P</sub> led is on, the measurement may be in error.
7. The current terminals are fuse protected.
8. Keep the potential test leads as short as possible. Long leads may introduce noise.
9. When using the four separate alligator clip leads always place the current leads outside the potential leads.