Application Note

Transformer Turns Ratio Using the 7000 Series RLC Meters

The following procedure describes a measurement method which enables calculation of transformer turns ratio using measurements from the 7000 Precision LCR Meter. The method involves measuring a stable precision resistor and uses the transformer, connected in series and aiding as a divider, to determine the ratio

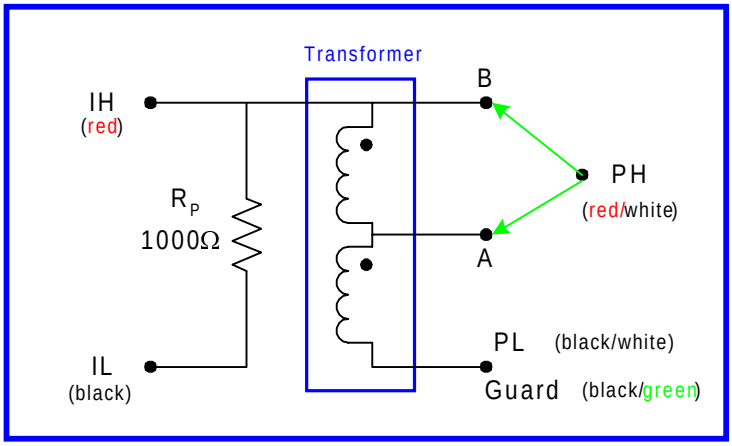

Figure 1: Test Setup

Measurement Procedure

1. Connect the transformer to be measured as shown in Figure 1. Connect PH to position B.
2. Select Rp as the primary parameter. Measure the 1000Ω resistor and note this reading.
3. Connect PH to position A.
4. Measure the resistance again and note this reading.
5. Determine the ratio using the following equation.

$$\frac{N1}{N2} = \frac{\text{value from step 2} - \text{value from step 4}}{\text{value from step 4}}$$

Example:

$$\text{ratio} = \frac{997.5\text{ohms} - 5.005\text{ohm}}{5.005\text{ohms}}$$

For complete product specifications on the 7000 Series Precision LCR meters or any of QuadTech's products, visit us at http://www.quadtech.com/resources/dataindex.html.

Telephone: 1- 800-253-1230, Website: **http://www.quadtech.com**
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