MODEL 2500A & 2501A

High Voltage Divider

- 120 to 1,000,000 Volts
- Outputs of 120 & 1V AC
- IEEE488 Interface
- Division Accuracy < 20 PPM
- Calibration Period 3 to 5 years
- Loss Measurement Systems

The Model 2500A is the low voltage arm of a high voltage capacitive divider. Based on the compensated current-comparator capacitive divider principle, it provides ultra precise ratio division of high voltage AC voltages down to workable levels. The Model 2500A also provides an easy means of inputting directly to precision wattmeters for direct measurement of transformer losses under control of the IEEE 488 interface.

The Model 2500A will accept inputs up to 10mA. Several selector scaling ranges of 1, 2, 5, 10, 20, 50 & 100 are also designed in to allow flexibility for various input voltages. On range selection 1 the full scale input is 120 kV, through a 100 pF low-loss high voltage standard reference capacitor while range selection 100 offers a full scale input of 1200 volts. The full scale output is 120 volts.

The Model 2501A will also accept inputs up to 10mA but its maximum input voltage is 2400 volts. The selector scaling ranges are designed for inputs of 2400, 1200, 600, 480, 360, 240 and 120 volts.

Both models are front panel and IEEE 488 controllable. The two LCD displays monitor the null and output of the divider. The divider is housed in a rack mounted enclosure and is shielded and fully protected against transients. All connections are made to the rear of the instrument.

The model 2500A compares the current through the high voltage reference capacitor to a low voltage standard reference capacitor connected to the feedback circuit of the current comparator. The current comparator automatically corrects for any phase and magnitude errors. The divider output is determined solely by the capacitance ratio of the two standard capacitors. Recommended calibration for the 2500A is 3 to 5 years.
Specifications:

**Model 2500A**

<table>
<thead>
<tr>
<th>HV Std Capacitor</th>
<th>Input Voltage (kV)</th>
<th>Output Voltage (Volts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 pF</td>
<td>100, 50, 20, 10, 5, 2, 1</td>
<td>100</td>
</tr>
<tr>
<td>50 pF</td>
<td>200, 100, 50, 20, 10, 5, 2</td>
<td>100</td>
</tr>
<tr>
<td>33 pF</td>
<td>1000, 500, 200, 100, 50, 20, 10</td>
<td>100</td>
</tr>
</tbody>
</table>

Other input and output voltages are available, please consult factory

**Model 2501A**

<table>
<thead>
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<th>Output Voltage (Volts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 pF</td>
<td>2400, 1200, 600, 480, 360, 240, 120</td>
<td>120</td>
</tr>
</tbody>
</table>

Maximum Input Current 10mA

Maximum Primary Output Voltage 120 VAC RMS with 10% Over Range

Division Ratio Uncertainty 50 – 60Hz

- Magnitude <20 ppm
- Quadrature <20 ppm

Optional: Secondary Output Voltage (max) 1 VAC RMS with 10% Over Range

Division Ratio Uncertainty 50 – 60Hz

- Magnitude <50 ppm
- Quadrature <50 ppm

Frequency Range of Measured Values 40 Hz to 3 kHz

Range Selection 7 Range Settings of 1, 2, 5, 10, 20, 50, 100

Warm Up Time 30 Minutes to Full Rated Accuracy

Operating Environment 18 to 34°C, 10 to 80% RH

Product Details

- Operating Power 100, 120, 220, 240V - 50/60 Hz
- Dimensions 221 x 482 x 584 mm
- Weight 18 kg
- Shipping Weight 22 kg
- Warranty 1 Year Parts & Labor

Data Subject to Change-Revision 2