AC1050 • 50 Amp Current Transformer

Low Cost 50/60Hz Current Transformers

Applications
- Sensing Overload Current
- Ground fault detection
- Metering
- Analog to Digital Circuits

Electrical Specifications @20°C ambient

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Current (50A nom., 125A max)</td>
<td>1000:1 nominal</td>
</tr>
<tr>
<td>Volt per Amp Ratio at 50A for 100 ohm load</td>
<td>0.100 V/A</td>
</tr>
<tr>
<td>Volt per Amp Ratio at 5A for 100 ohm load</td>
<td>0.098 V/A</td>
</tr>
<tr>
<td>DC Resistance at 20°C</td>
<td>49.3 ohms</td>
</tr>
<tr>
<td>Dielectric Withstanding Voltage (Hi-pot)</td>
<td>4KVrms</td>
</tr>
</tbody>
</table>

Environmental Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperature</td>
<td>-55° to +130°C</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>100 megohms min.</td>
</tr>
</tbody>
</table>

Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>Polycarbonate</td>
</tr>
<tr>
<td>Encapsulant</td>
<td>Epoxy</td>
</tr>
<tr>
<td>Flammability</td>
<td>Conforms to UL94-VO</td>
</tr>
<tr>
<td>Terminals</td>
<td>Pins ø 1.0mm</td>
</tr>
<tr>
<td>Marking</td>
<td>TALEMA Date Code (W/Y) AC1050, Dot at start pin</td>
</tr>
<tr>
<td>Approximate Weight</td>
<td>47.3 grams</td>
</tr>
<tr>
<td>Tolerance</td>
<td>±0.2mm</td>
</tr>
</tbody>
</table>

Output Volts vs Input Current

For various ohmic loads

<table>
<thead>
<tr>
<th>Input Current in Amps</th>
<th>Output Voltage in Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>200</td>
<td>2</td>
</tr>
<tr>
<td>500</td>
<td>0.5</td>
</tr>
<tr>
<td>1000</td>
<td>0.1</td>
</tr>
<tr>
<td>Infinity</td>
<td>0</td>
</tr>
</tbody>
</table>

%RE vs RL at Rated primary current

(AC1050)

<table>
<thead>
<tr>
<th>Load Resistance RL in ohms</th>
<th>Percent ratio error in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10000</td>
</tr>
<tr>
<td>100</td>
<td>1000</td>
</tr>
<tr>
<td>1000</td>
<td>100</td>
</tr>
<tr>
<td>10000</td>
<td>10</td>
</tr>
</tbody>
</table>

Typical Excitation Curve

(AC1040–AC1050)

<table>
<thead>
<tr>
<th>Sec RMS Exciting Current in mA</th>
<th>Sec RMS Exciting Voltage in Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0.1</td>
</tr>
<tr>
<td>0.1</td>
<td>1.0</td>
</tr>
<tr>
<td>1.0</td>
<td>10.0</td>
</tr>
<tr>
<td>10.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Notes:
1) Unless requested, the terminating resistor and the one-turn primary are not supplied
2) Pin 3: Normally for mechanical support only but will be used on center tapped designs

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