Toroidal, AC Leakage Current Sensor

The Zibo Yuanxing Electronics ALS50 series of AC Leakage current sensors provide highly accurate non-contact AC leakage current measurement over a broad frequency range. The ALS series uses a “zero flux” technique to measure AC currents on the micro ampere level. Shielding and primary to secondary isolation provide a “noise free” secondary output signal proportional to the primary AC current.

Features:
- Capable of micro ampere level measurement.
- Suitable for harsh operating environments.

Specifications:
- Frequency Range: 50 to 400 Hz.
- Output: 5 VAC @ rated primary current.
- Dielectric Resistance: 1,000 M ohms @ 500 VDC
- Isolation Voltage: 2500 V_{RMS} for 1 minute, 0.5mA
- Surge withstand potential: 5,000V (1.2/50µs standard shock wave)
- Rated Load Resistance: ≥ 10k Ohms.
- Operating Temperature: -40°C to +85°C
- Opening: 50mm (1.98”)
- Construction:
  - Metal case.
  - Water proof, suitable for outdoor installation.
- Power Supply Requirements:
  - ±12VDC to 15VDC.
  - < 10mA consumption.
- RoHS compliant

Performance:
- Accuracy: ± 0.05% of rated input.
- Linearity: < 0.02% from 10% to 120% of Rated Current
- Offset Voltage: < ± 1mV @ rated primary current (+25°C).
- Temperature Drift: 0.05% per °C of rated primary current (-40°C to +85°C).

Custom AC Leakage current sensor designs are available to meet the specific application requirements. For a no obligation technical evaluation, please provide the specific performance requirements to engineering@tichenassociates.com or the address below.

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**Models:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Primary Current</th>
<th>Measurement Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALS50-2mA/ 5V</td>
<td>2mA</td>
<td>0.002mA to 2.4mA</td>
</tr>
<tr>
<td>ALS50-50mA/ 3.53V</td>
<td>50mA</td>
<td>0.010mA to 100mA</td>
</tr>
</tbody>
</table>

**Outline Drawing:**

![Outline Drawing](image)

**Connection:**
- Pin #1 – Power supply + input
- Pin #2 - Power supply – input
- Pin #3 – Ground
- Pin #4 – Secondary DC voltage signal output.