Toroidal, AC Leakage Current Sensor

The Zibo Yuanxing Electronics **ALS12B** 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 at 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 measurements from 0.01mA to 100mA.
- Panel mounted, suitable for harsh operating environments.

### Specifications:
- Frequency Range: 50 to 400 Hz.
- Output: 3.53 VAC @ rated primary current. Optional: any voltage between 0.10 to 7.07V @ rated 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: 12.4mm (0.49”).
- Construction:
  - Metal case.
  - Water proof, suitable for outdoor installation.

### Performance:
- Power Supply Requirements:
  - ± 12VDC to 15VDC.
  - < 10mA consumption.
- RoHS compliant

- Accuracy: ± 0.3% (@ 25°C) of rated primary current.
- Linearity: < 0.3% from 10% to 120% of Rated Current.
- Offset Voltage: < ± 1mV @ primary current = 0 (@ 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.
### Models:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Primary Current</th>
<th>Measurement Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALS12B-10mA/ 3.53V</td>
<td>10mA</td>
<td>0.010mA to 20mA</td>
</tr>
<tr>
<td>ALS12B-20mA/ 3.53V</td>
<td>20mA</td>
<td>0.010mA to 40mA</td>
</tr>
<tr>
<td>ALS12B-30mA/ 3.53V</td>
<td>30mA</td>
<td>0.010mA to 60mA</td>
</tr>
<tr>
<td>ALS12B-50mA/ 3.53V</td>
<td>50mA</td>
<td>0.010mA to 100mA</td>
</tr>
</tbody>
</table>

### Outline Drawing:

Connection:
- RED – Power supply + input
- GREEN - Power supply – input
- BLACK – Ground/ Shield
- YELLOW – Secondary voltage signal output.