AC Current transducer AKR-C420L

Transducer for the electronic measurement AC waveforms current, with galvanic isolation between the primary (High power) and the secondary circuits (Electronic circuit). Jumper selectable ranges and True RMS 4-20mA current output.

I_{PN} = 2..200A

Electrical data

<table>
<thead>
<tr>
<th>Primary Nominal Current</th>
<th>Analogue Output Signal</th>
<th>Type</th>
<th>RoHS Date Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>I_{PN} (A.t.RMS)</td>
<td>I_{OUT} (mA)</td>
<td>AKR 5 C420L</td>
<td>JULY 2006</td>
</tr>
<tr>
<td>2.5</td>
<td>4-20</td>
<td>AKR 5 C420L</td>
<td>JULY 2006</td>
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<tr>
<td>10,20,50,100,150,200</td>
<td>4-20</td>
<td>AKR 50 C420L planned</td>
<td></td>
</tr>
</tbody>
</table>

Vc: Supply voltage (Loop powered) 24 V DC
R_L: Load resistance see power supply diagram
V_r: Rated voltage (CAT III, PD2) 150 VAC
V_d: RMS Isolation voltage test, 50 Hz, 1mn 3 kV AC
f: Frequency bandwith 10-400 Hz

Accuracy - Dynamic performance data

| X: Accuracy @ I_{PN}, T_s=25°C | ±1% |
| t_r: Response time @ 90% of I_{PN} | < 600 mS |

General data

| T_A: Ambient operating temperature (0-95% RH) | -20 .. + 50 °C |
| T_S: Ambient storage temperature              | -20 .. + 85 °C |
| m: Mass                                       | 90 g |
| Safety                                        | IEC 61010-1 |
| EMC                                           | EN 61326 |

Note: 1) For 4-20mA output model, no saturation output up to 23 mA.

Selecting the transducer

VFD (Variable Frequency Drive) and SCR (Semi Conductor Rectifier) output waveforms are rough approximations of a sine wave. There are numerous spikes and dips in each cycle. AKR transducers use a mathematical algorithm called “True RMS,” which integrates the actual waveform over time. True RMS is the only way to accurately measure distorted AC waveforms. Select AKR transducers for nonlinear loads or in “noisy” power environments.

Features

- VFD and SCR waveforms current measurement
- True RMS responding
- 4-20 mA Current output
- Loop powered transducers
- Panel mounting
- Accurate
- Jumper selectable ranges

Advantages

- Large aperture
- High isolation between primary and secondary circuits
- Easy to mount

Applications

- VFD Controlled Loads:
  VFD output indicates how the motor and attached load are operating.
- SCR Controlled Loads:
  Accurate measurement of phase angle fired or burst fired (time proportioned) SCRs.
- Switching Power Supplies and Electronic Ballasts:
  True RMS sensing is the most accurate way to measure power supply or ballast input power.

Options on request

- DIN mounting

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.

www.lem.com
Dimensions AKR-C420L (unit: mm, 1 mm = 0.0394 inch)

- General tolerance ± 1 mm
- Primary aperture 19 mm
- Panel mounting 2 holes Ø 4.5 mm
  Distance between holes 78 mm

Connections
- 2 x UNC8 Cylindric Head

Power Supply diagram

Remark
- Temperature of the primary conductor should not exceed 60°C.