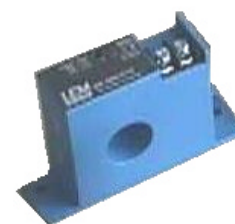


# AC Current transducer AKR-C420L

$I_{PN} = 2..200A$

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.



## Electrical data

| Primary Nominal Current | Analogue Output Signal <sup>1)</sup>   | Type                     | RoHS      |
|-------------------------|--|--------------------------|-----------|
| $I_{PN}$ (A.t.RMS)      | $I_{OUT}$ (mA)                         |                          | Date Code |
| 2,5                     | 4-20                                   | <b>AKR 5 C420L</b>       | JULY 2006 |
| 10,20,50                | 4-20                                   | <b>AKR 50 C420L</b>      | planned   |
| 100,150,200             | 4-20                                   | <b>AKR 200 C420L</b>     | JULY 2006 |
| $V_c$                   | Supply voltage (Loop powered)          | 24                       | V DC      |
| $R_L$                   | Load resistance                        | see power supply diagram |           |
| $V_b$                   | Rated voltage (CAT III, PD2)           | 150                      | V AC      |
| $V_d$                   | RMS Isolation voltage test, 50 Hz, 1mn | 3                        | kV AC     |
| f                       | Frequency bandwidth                    | 10-400                   | Hz        |

## Accuracy - Dynamic performance data

|       |   |         |    |
|-------|---|---------|----|
| X     | Accuracy @ $I_{PN}$ , $T_A=25^{\circ}C$ | $\pm 1$ | %  |
| $t_r$ | Response time @ 90% of $I_{PN}$         | < 600   | mS |

## General data

|       |  |             |             |
|-------|--|-------------|-------------|
| $T_A$ | Ambient operating temperature (0-95% RH) | -20 ..+ 50  | $^{\circ}C$ |
| $T_S$ | Ambient storage temperature              | -20 ..+ 85  | $^{\circ}C$ |
| m     | Mass                                     | 90          | g           |
|       | Safety                                   | IEC 61010-1 |             |
|       | EMC                                      | EN 61326    |             |

Note: <sup>1)</sup> 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

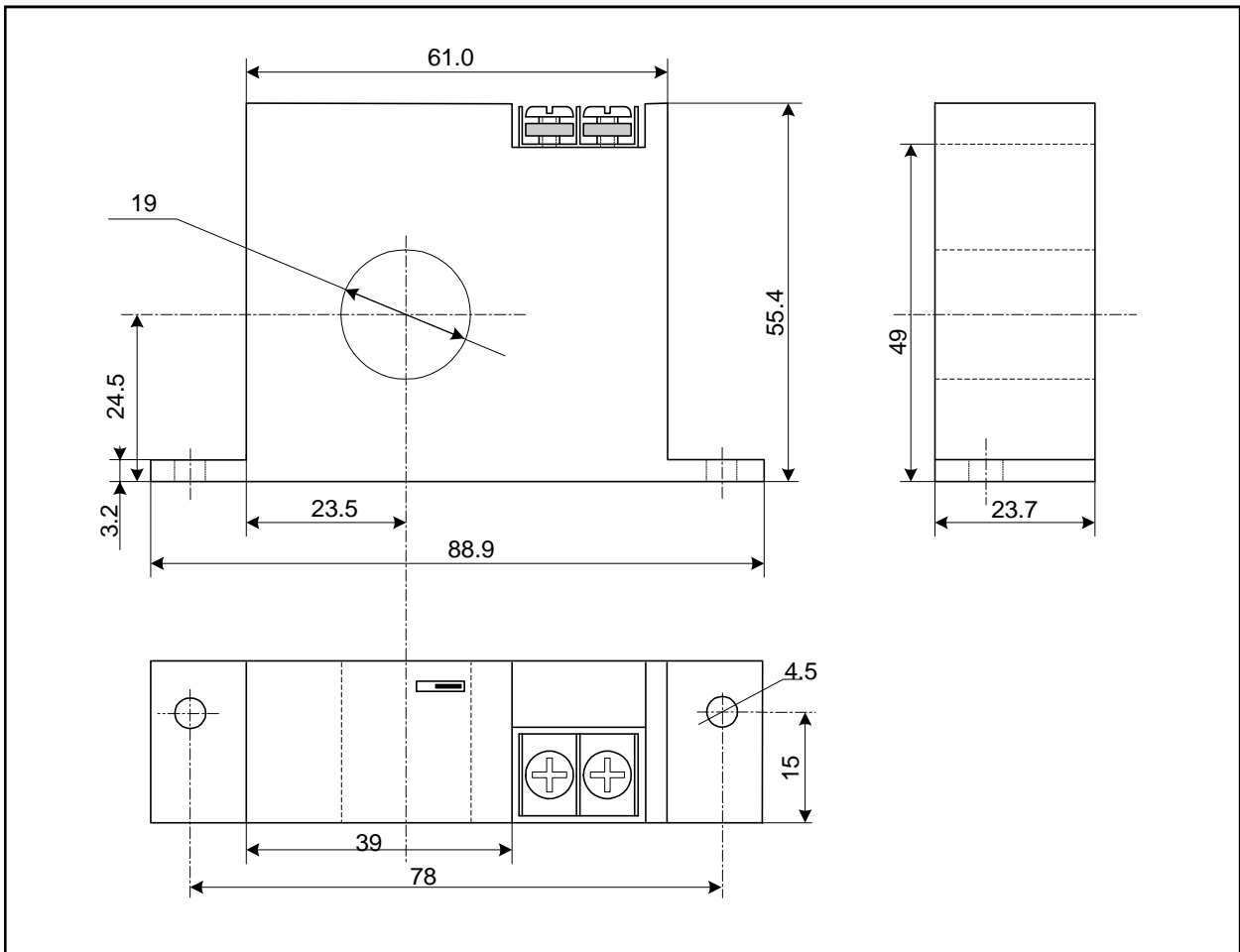
## Applications

- VFD Controlled Loads:  
VFD output indicates how the motor and attached load are operating.
- SCR Controlled Loads:  
Acurate 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

## Dimensions AKR-C420L (unit : mm, 1mm = 0.0394 inch)

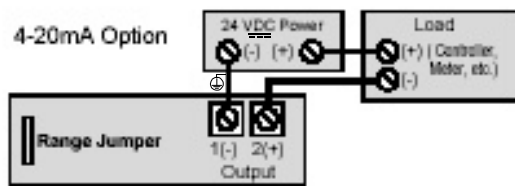


### Mechanical characteristics

- General tolerance  $\pm 1$  mm
- Primary aperture 19 mm
- Panel mounting 2 holes  $\varnothing 4.5$ mm
- Distance between holes 78 mm

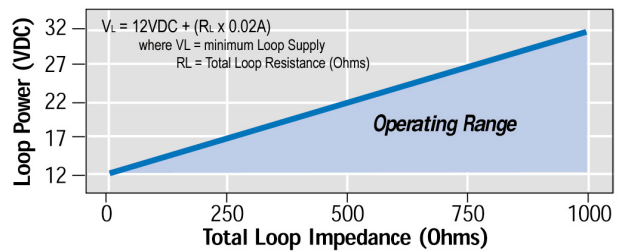
### Connections

- 2 x UNC8 Cylindric Head



Notes: - Captive screw terminals.  
- 12-22 AWG solid or stranded.  
- Observe polarity.

### Power Supply diagram



### Remark

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