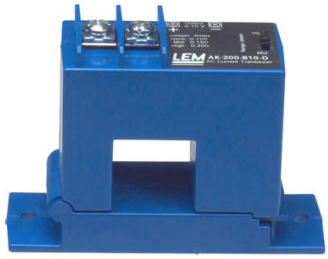
# AC Current transducer AKR-B420L

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

A Split Core 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 $I_{PN}$ (A.t.RMS) | Analogue Output Signal[1] $I_{OUT}$ (mA) | Type | RoHS Date Code |
|---|---|---|---|
| 2,5 | 4-20 | **AKR 5 B420L** | JUNE 2006 |
| 10,20,50 | 4-20 | **AKR 50 B420L** | planned |
| 100,150,200 | 4-20 | **AKR 200 B420L** | planned |

| | | | |
|---|---|---|---|
| Vc | 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 bandwith | 10-400 | Hz |

## Accuracy - Dynamic performance data

| | | | |
|---|---|---|---|
| X | Accuracy @ $I_{PN}$, $T_A$=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 | 120 | 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
- Split core box
- Current output
- Loop powered transducers
- Panel mounting
- Jumper selectable ranges

## Advantages

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

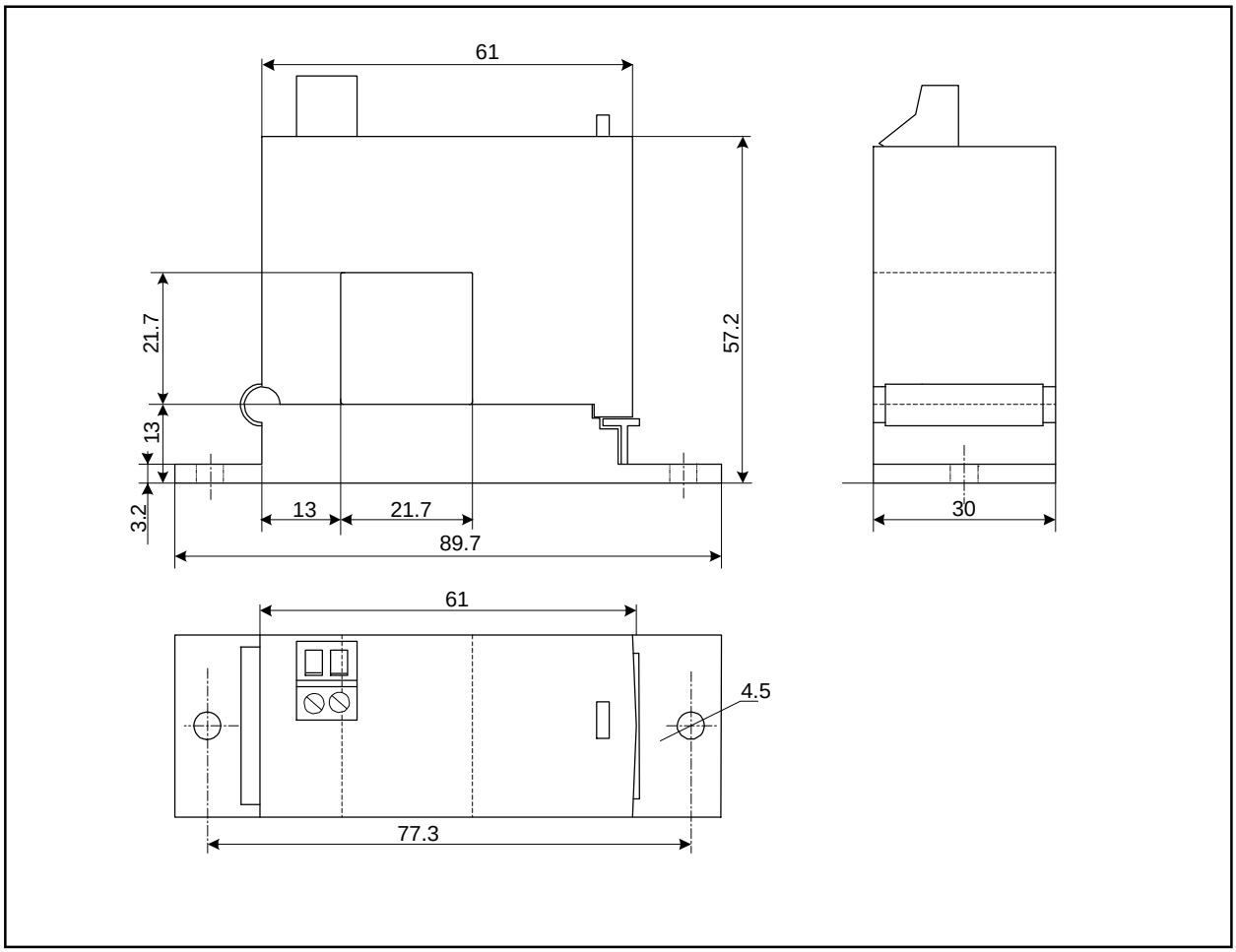
## Applications

- 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-B420L (unit : mm, 1mm = 0.0394 inch)

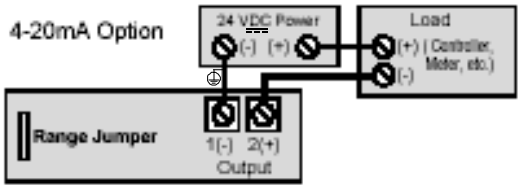



## Mechanical characteristics

- General tolerance ± 1 mm
- Primary aperture 21.7 mm sq.
- Panel mounting 2 holes ∅ 4.5mm
  Distance between holes 77.3 mm

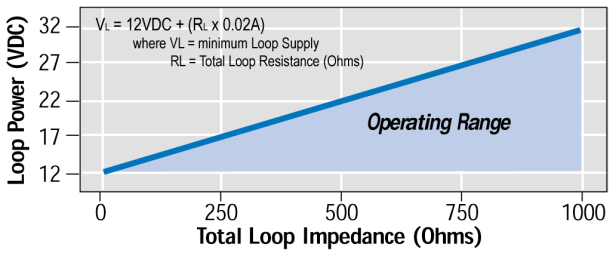
## Connections

- 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.