

# 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 <sup>1)</sup> $I_{OUT}$ (mA)	Type	RoHS Date Code
2,5	4-20	<b>AKR 5 B420L</b>	JUNE 2006
10,20,50	4-20	<b>AKR 50 B420L</b>	planned
100,150,200	4-20	<b>AKR 200 B420L</b>	planned
$V_c$	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	120	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.*

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

## 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

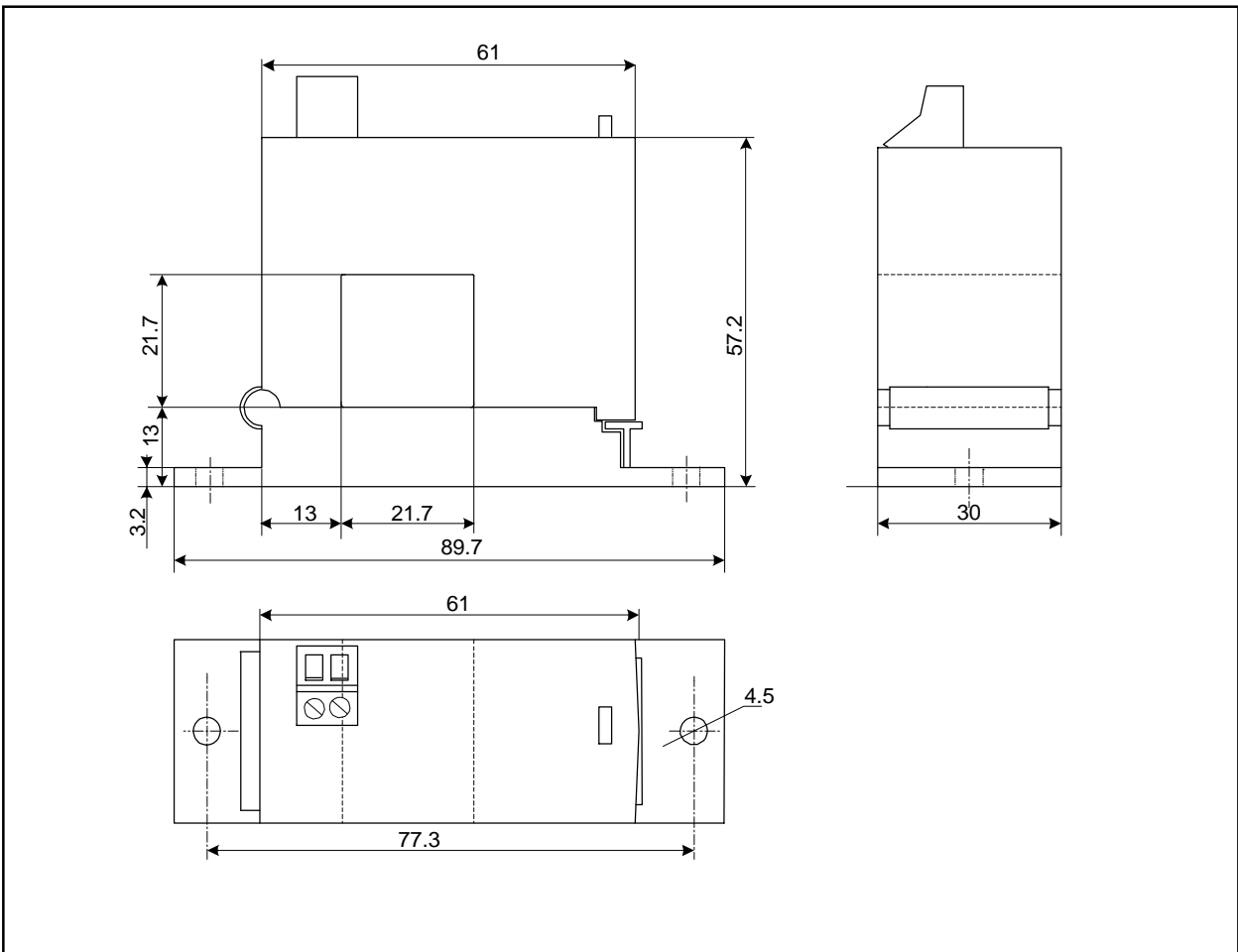
## Applications

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

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

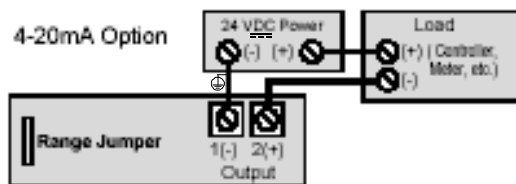


**Mechanical characteristics**

- General tolerance  $\pm 1$  mm
- Primary aperture 21.7 mm sq.
- Panel mounting 2 holes  $\varnothing 4.5$ mm
- Distance between holes 77.3 mm

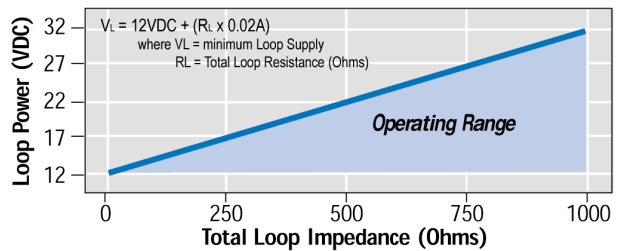
**Connections**

- 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.