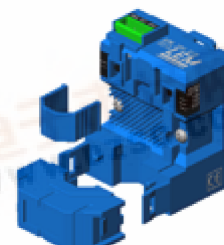




## AC Current transducer APR-B420L

$$I_{PN} = 10 \dots 400 \text{ A}$$

Split core transducer for the electronic measurement distorted AC waveforms current, with galvanic isolation between the primary circuit (power) and the secondary circuit (measurement). Switch selectable ranges and True RMS 4-20mA current output.



### Electrical data

Primary Nominal Current $I_{PN}$ (A.t.rms)	Output Current $I_{OUT}$ (mA)	Type	RoHS since date code
10,25,50	4-20	<b>APR 50 B420L</b>	planned
50,75,100	4-20	<b>APR 100 B420L</b>	planned
100,150,200	4-20	<b>APR 200 B420L</b>	46317
200,300,400	4-20	<b>APR 400 B420L</b>	46291

$R_L$	Load resistance (See the graph "Load Resistance vs. Supply Voltage")	< 350 $\Omega$
$V_C$	Supply voltage (loop powered)	+ 12 .. 24 V DC
$I_{SL}$	Output current limitation	< 25 mA
$\hat{I}_P$	Overload capability	no limitation

### Accuracy-Dynamic performance data

<b>X</b>	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (excluding offset)	< $\pm 1$ % of $I_{PN}$
<b>e<sub>L</sub></b>	Linearity error (0 .. $\pm I_{PN}$ )	< $\pm 0.5$ % of $I_{PN}$
<b>I<sub>OE</sub></b>	Electrical offset current @ $T_A = 25^\circ\text{C}$	4 mA
<b>TCI<sub>OE</sub></b>	Temperature coefficient of $I_{OE}$	$\pm 1$ $\mu\text{A/K}$
<b>TCI<sub>OUT</sub></b>	Temperature coefficient of $I_{OUT}$ (% of reading)	$\pm 0.1$ %/K
<b>t<sub>r</sub></b>	Response time to 90% of $I_{PN}$ step	< 400 ms
<b>BW</b>	Frequency bandwidth ( $\pm 1$ %)	30 .. 6000 Hz

### General data

<b>T<sub>A</sub></b>	Ambient operating temperature	- 20 .. + 60 $^\circ\text{C}$
<b>T<sub>S</sub></b>	Ambient storage temperature	- 20 .. + 85 $^\circ\text{C}$
<b>m</b>	Mass	90 g
<b>IPxx</b>	Protection degree	IP20

### Features

- VFD and SCR waveforms current measurement
- True RMS output
- Split core type
- Loop powered 4-20mA current output
- DIN mounting & Panel mounting
- Eliminates insertion loss
- Switch selectable ranges
- Isolated plastic case recognized according to UL94-V0.

### Advantages

- Large aperture for cable up to  $\varnothing 18\text{mm}$
- High isolation between primary and secondary circuits
- Easy installation

### 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. Current measurement gives faster response than temperature measurement.
- **Switching Power Supplies and Electronic Ballasts:**  
True RMS sensing is the most accurate way to measure power supply or ballast input power.

### Application domain

- Energy and Automation

## Current Transducer APR-B420L

### Isolation characteristics

$V_b$	Rated isolation voltage rms with IEC 61010-1 standards and following conditions : - Single insulation - Over voltage category CAT III - Pollution degree PD2 - Heterogeneous field	300	V
$V_d$	Rms voltage for AC isolation test, 50 Hz, 1min	5	kV
$V_e$	Partial discharge extinction voltage rms @ 10 pC	1.5	kV
$\hat{V}_w$	Impulse withstand voltage 1.2/50 $\mu$ s	6.1	kV
If insulated cable is used for the primary circuit, the voltage category could be improved with the following table :			
	Cable insulation (primary)	Category	
	HAR 05	600V CAT III	
	HAR 07	1000V CAT III	
dCp	Creepage distance	5.5	mm
dCl	Clearance distance	5.5	mm
CTI	Comparative tracking index (Group I)	600	

### Safety



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

Installation and maintenance should be done with main power supply disconnected.

The operator must have an accreditation to install this material.



#### Caution! Risk of electrical shock

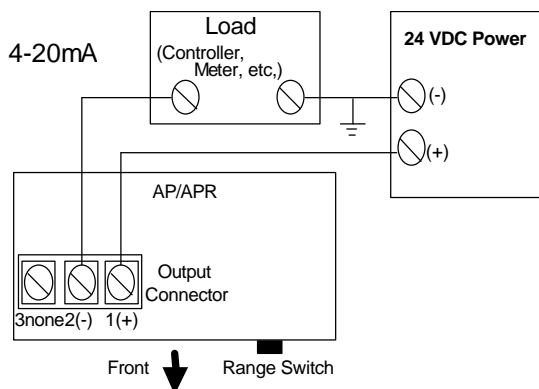
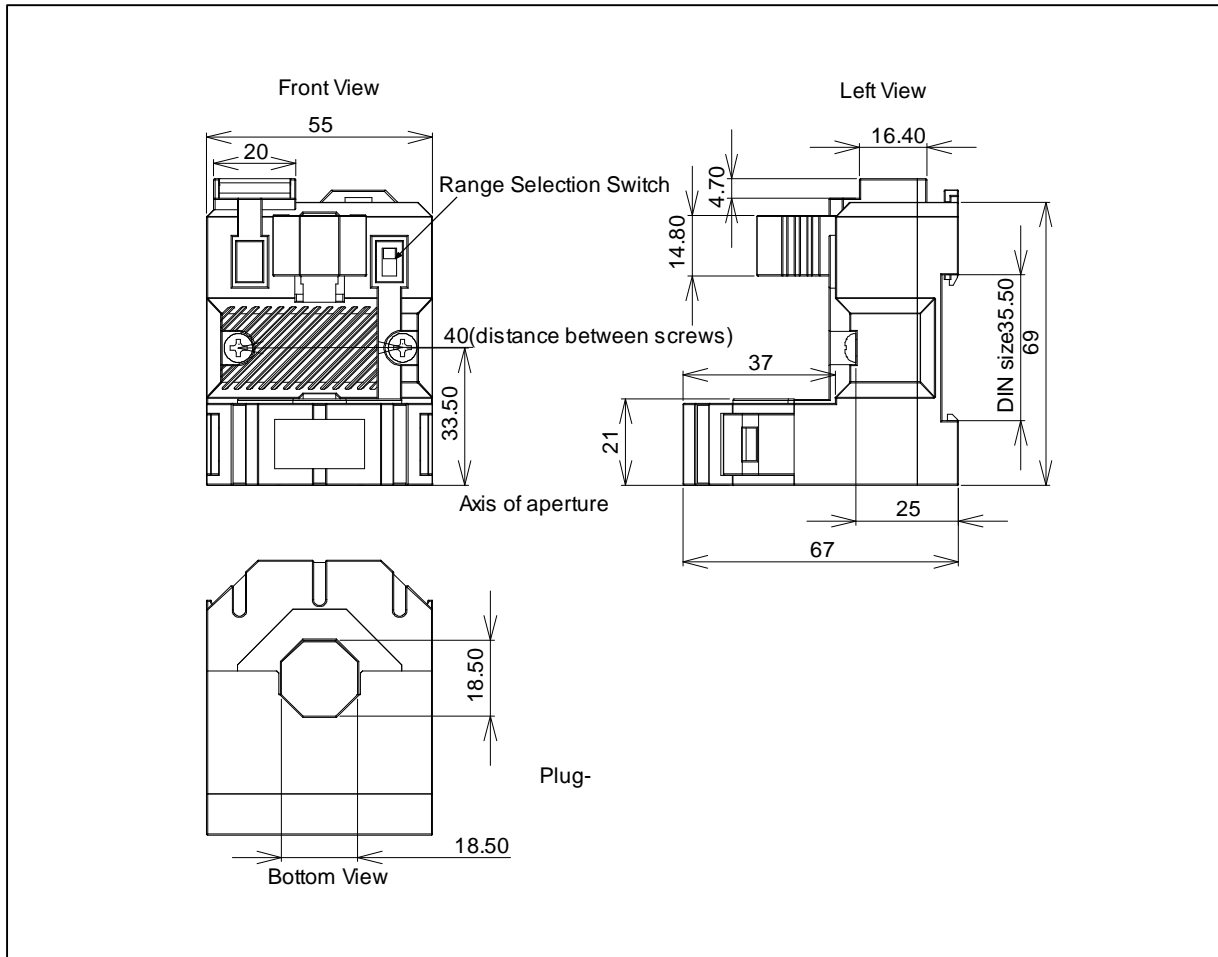
When operating the transducer, certain parts of the module can carry hazardous voltage (e.g. primary conductor, power supply).

Ignoring this warning can lead to injury and/or cause serious damage.

The user must take care of all protection guarantee against electrical shock.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.

## Dimensions AP(R)-B420L (unit : mm, 1mm = 0.0394 inch)



## Connections

- Wires up to  $\varnothing 2$  mm
- Female connector provided (spring terminal blocks)
- User-friendly spring-cage connection for no-tool direct conductor connection

## Mechanical characteristics

- General tolerance  $\pm 1$  mm
- Primary aperture  $\varnothing 18.5$  mm
- Panel mounting 2 holes  $\varnothing 4.0$  mm
- Distance between holes 40.0 mm

For panel mounting, replace M4 screws by new one (not supplied) with appropriate length to panel's thickness.

