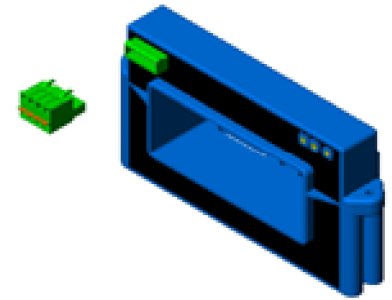


## AC/DC Current transducer AHR-B5

The transducer for the electronic measurement of DC & distorted AC waveform currents, with galvanic isolation between the primary circuit (power) and the secondary circuit (measurement).  
True RMS 0-5 V voltage output.



$$I_{PN} = 500 \dots 2000 \text{ A}$$



### Electrical data

Primary nominal DC & AC current $I_{PN}$ (At rms)	Primary AC current max. peak value <sup>1)</sup> $I_P$ (A)	Output voltage (Analog) $V_{OUT}$ (VDC)	Type
500	2000	0-5	<b>AHR 500 B5</b>
800	2500	0-5	<b>AHR 800 B5</b>
1000	2000	0-5	<b>AHR 1000 B5</b>
1500	2500	0-5	<b>AHR 1500 B5</b>
2000	3000	0-5	<b>AHR 2000 B5</b>

$R_L$	Load resistance	$\geq 10$	k $\Omega$
$V_C$	Supply voltage	+ 20 .. 50	V DC
$I_C$	Current Consumption	35	mA
$V_{SL}$	Output voltage limitation	< 7	V
$\hat{I}_P$	Overload capability (Ampere Turns)	30000	At

### 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 (1% of $I_{PN} \dots \pm I_{PN}$ )	< $\pm 1.0$	% of $I_{PN}$
<b>V<sub>OE</sub></b>	Electrical offset voltage, $T_A = 25^\circ\text{C}$	< $\pm 1.0$	% of $I_{PN}$
<b>TCV<sub>OE</sub></b>	Temperature coefficient of $V_{OE}$ (0 .. + 60 °C)	$\pm 2.0$	mV/K
	(- 40 .. + 70 °C)	$\pm 4.0$	mV/K
<b>TCV<sub>OUT</sub></b>	Temperature coefficient of $V_{OUT}$ (% of reading)	$\pm 0.15$	%/K
<b>t<sub>r</sub></b>	Response time to 90% of $I_{PN}$ step	< 150	ms
<b>BW</b>	Frequency bandwidth ( $\pm 1$ dB)	DC, 20 .. 6000	Hz

### General data

<b>T<sub>A</sub></b>	Ambient operating temperature	- 40 .. + 70	°C
<b>T<sub>S</sub></b>	Ambient storage temperature	- 40 .. + 85	°C
<b>m</b>	Mass	650	g
<b>IPxx</b>	Protection degree	IP20	

**Note :** <sup>1)</sup> The max. peak AC current is the highest peak level of the primary signal that is taken into account for accurate True r.m.s. calculation.  
Yet the device is designed for maximum continuous true r.m.s. value equal to  $I_{PN}$ , whereas the output is limited by the above specified output limitation.

### Features

- DC + distorted AC waveform currents measurement
- True RMS output
- Busbar or panel mounting
- Split core type
- Insulated plastic case recognized according to UL94-V0.

### Advantages

- High isolation between primary and secondary circuits
- Eliminates insertion loss
- Easy installation.

### Applications

- **AC power supplies or Motors:**  
True RMS current sensing - the most accurate way to monitor power supply or motor input power
- **VFD Controlled Loads:**  
VFD output current monitoring to indicate how the motor and the attached load are operating
- **SCRs or Switch-mode Rectifiers:**  
Accurate measurement of output current
- **Renewable Energy Installations or Backup Batteries:**  
Continuous condition monitoring allowing automatic failure detection/anticipation.

### Application domain

- Energy and Automation

## Current Transducer AHR-B5

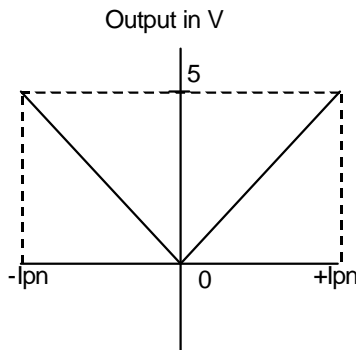
### Isolation characteristics

$V_b$	Rated isolation voltage rms <sup>1)</sup> with IEC 61010-1 according to the 61326 standards and following conditions: - Reinforced isolation - Over voltage category III - Pollution degree PD2 - Heterogeneous field	500	V
$V_d$	Rms voltage for AC isolation test <sup>2)</sup> , 50 Hz, 1min	5.8	kV
dCp	Creepage distance	11.9	mm
dCl	Clearance distance	11.9	mm
CTI	Comparative tracking index (Group I)	250-399	

**Notes :** <sup>1)</sup> If insulated cable is used for the primary circuit, the voltage category could be improved according to the insulation characteristics given by the cable manufacturer.

<sup>2)</sup> Between primary (completely filling the aperture) and secondary.

### Output polarity with DC input



### 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

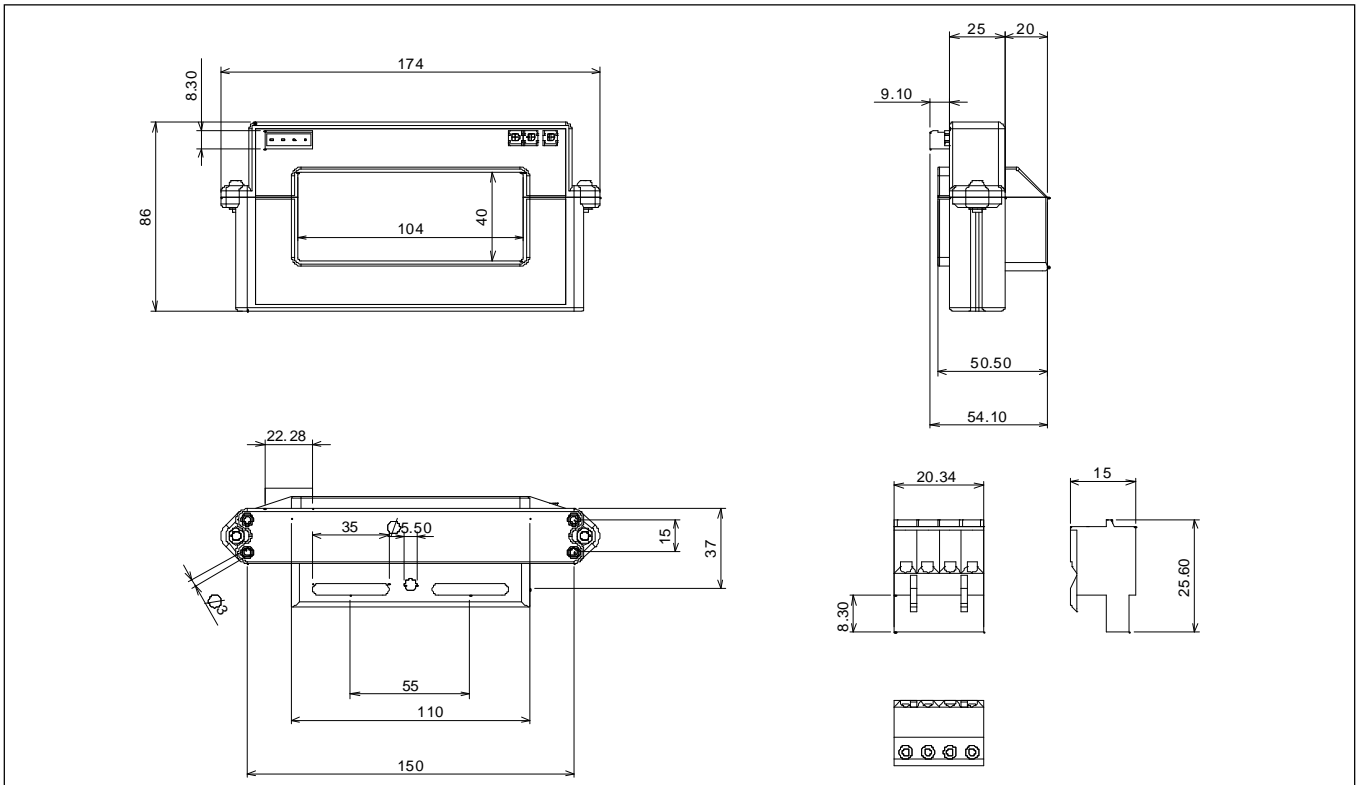
When operating the transducer, certain parts of the module can carry hazardous voltage (e.g. primary conductor, power supply).

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

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

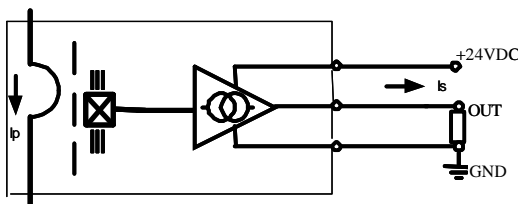
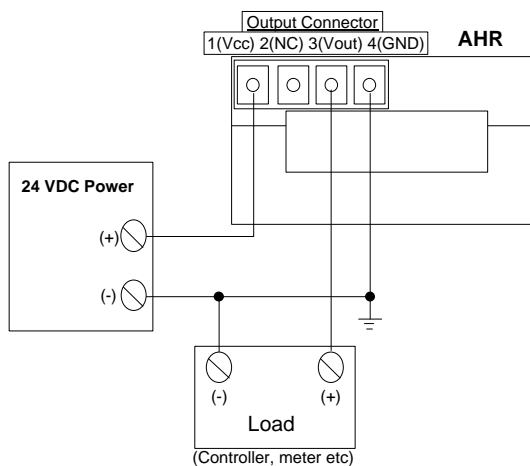
This transducer is a built-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.

## Dimensions AHR-B5 (in mm. 1 mm = 0.0394 inch)



## Connections

- Wires up to 2 mm  $\varnothing$
- Female connector provided (screw terminals)



## Mechanical characteristics

- General tolerance  $\pm 1$  mm
- Primary aperture 104 x 40 mm
- Busbar fastening 1 hole  $\varnothing 5.5$  mm & 2 slots 5.5 x 30 mm
- Panel mounting 4 holes  $\varnothing 3.2$  mm
- Distance between hole axes 15 x 150 mm

## Remarks

- The return busbar and primary conductor elbow must be located at a minimum distance of 2.5 x the window length away from the transducer case.
- The temperature of the primary busbar can not exceed 90°C.
- Dynamic performances are the best with a primary busbar completely filling the primary aperture.
- This is a standard model. For different versions (supply voltages, different outputs, bidirectional measurements...), please contact us.