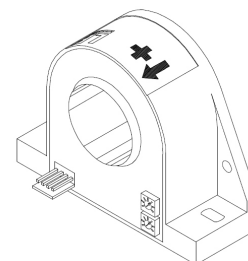


## Current Transducer HTA 100 .. 1000-S

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



$I_{PN} = 100 \dots 1000 \text{ A}$



### Electrical data

	Type	Primary nominal current rms	Primary current, measuring range	RoHS since date code
		$I_{PN}$ (A)	$I_{PM}$ (A)	
	HTA 100-S	100	$\pm 300$	46179
	HTA 200-S	200	$\pm 600$	46170
	HTA 300-S	300	$\pm 900$	46097
	HTA 400-S	400	$\pm 1000$	46100
	HTA 500-S	500	$\pm 1000$	46083
	HTA 600-S	600	$\pm 1000$	46222
	HTA 1000-S	1000	$\pm 1000$	46118
$V_{OUT}$	Output voltage (Analog) @ $\pm I_{PN}$		$\pm 4$	V
$R_L$	Load resistance	$T_A = 0 \dots +70^\circ\text{C}$	$> 1$	k $\Omega$
		$T_A = -25 \dots +85^\circ\text{C}$	$> 3$	k $\Omega$
$V_C$	Supply voltage ( $\pm 5\%$ )		$\pm 15$	V
$I_C$	Current consumption		$< 25$	mA
$R_{IS}$	Isolation resistance @ $500 V_{DC}$		$> 500$	M $\Omega$

### Accuracy - Dynamic performance data

$X$	Accuracy <sup>1)</sup> @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ , @ $\pm 15 \text{ V}$		$\pm 1$	%
$\epsilon_L$	Linearity error <sup>1)</sup> ( $0 \dots \pm I_{PN}$ )		$\pm 0.5$	%
$V_{OE}$	Electrical offset voltage, @ $I_P = 0$ , $T_A = 25^\circ\text{C}$		$< \pm 10$	mV
$V_{OH}$	Hysteresis offset voltage @ $I_P = 0$ , after an excursion of $3 \times I_{PN}$		$< \pm 10$	mV
$TCV_{OE}$	Temperature coefficient of $V_{OE}$	$T_A = -25 \dots +85^\circ\text{C}$	$< \pm 1$	mV/K
$TCV_{OUT}$	Temperature coefficient of $V_{OUT}$	$T_A = -25 \dots +85^\circ\text{C}$	$< \pm 0.05$	%/K
$t_r$	Response time to 90 % of $I_{PN}$ step		$< 3$	$\mu\text{s}$
$di/dt$	$di/dt$ accurately followed		$> 50$	A/ $\mu\text{s}$
$BW$	Frequency bandwidth (-3 dB) <sup>2)</sup>		DC .. 50	kHz

### General data

$T_A$	Ambient operating temperature		$-25 \dots +85$	$^\circ\text{C}$
$T_S$	Ambient storage temperature		$-25 \dots +85$	$^\circ\text{C}$
$m$	Mass		230	g
	Standards	Safety	EN 50178(1994)	
		EMC	EN 50082-2(1992)	
			EN 50081-1(1992)	
	Deviation in output when tested to EN 61000-4-3		$< 25$	% of $I_{PN}$

Notes: <sup>1)</sup> Excludes the electrical offset

<sup>2)</sup> Refer to derating curves in the technical file to avoid excessive core heating at high frequency.

### Features

- Open loop transducer using Hall effect
- Panel mounting-Horizontal or Vertical
- Insulated plastic case recognized according to UL 94-V0

### Advantages

- Very good linearity
- Very good accuracy
- Low temperature drift
- Wide frequency bandwidth
- Very low insertion losses
- High immunity to external interference
- Current overload capability
- Low power consumption
- Wide dynamic range, 100 to 1000 A in one package.

### Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

### Application domain

- Industrial.

## Current Transducer HTA 100 .. 1000-S

### Isolation characteristics

$V_d$	Rms voltage for AC isolation test, 50 Hz, 1 min	4.0	kV
$\hat{V}_w$	Impulse withstand voltage 1.2/50 $\mu$ s	> 7.3 Min	kV
dCp	Creepage distance	7.2	mm
dCl	Clearance distance	7.2	mm
CTI	Comparative Tracking Index (group IIIa)	600	

### Applications examples

According to EN 50178 and IEC 61010-1 standards and following conditions:

- Over voltage category III
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
<b>dCp, dCl, <math>\hat{V}_w</math></b>	Rated isolation voltage	Nominal voltage
Single isolation	600 V	600 V
Reinforced isolation	300 V	300 V

### 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.



Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).

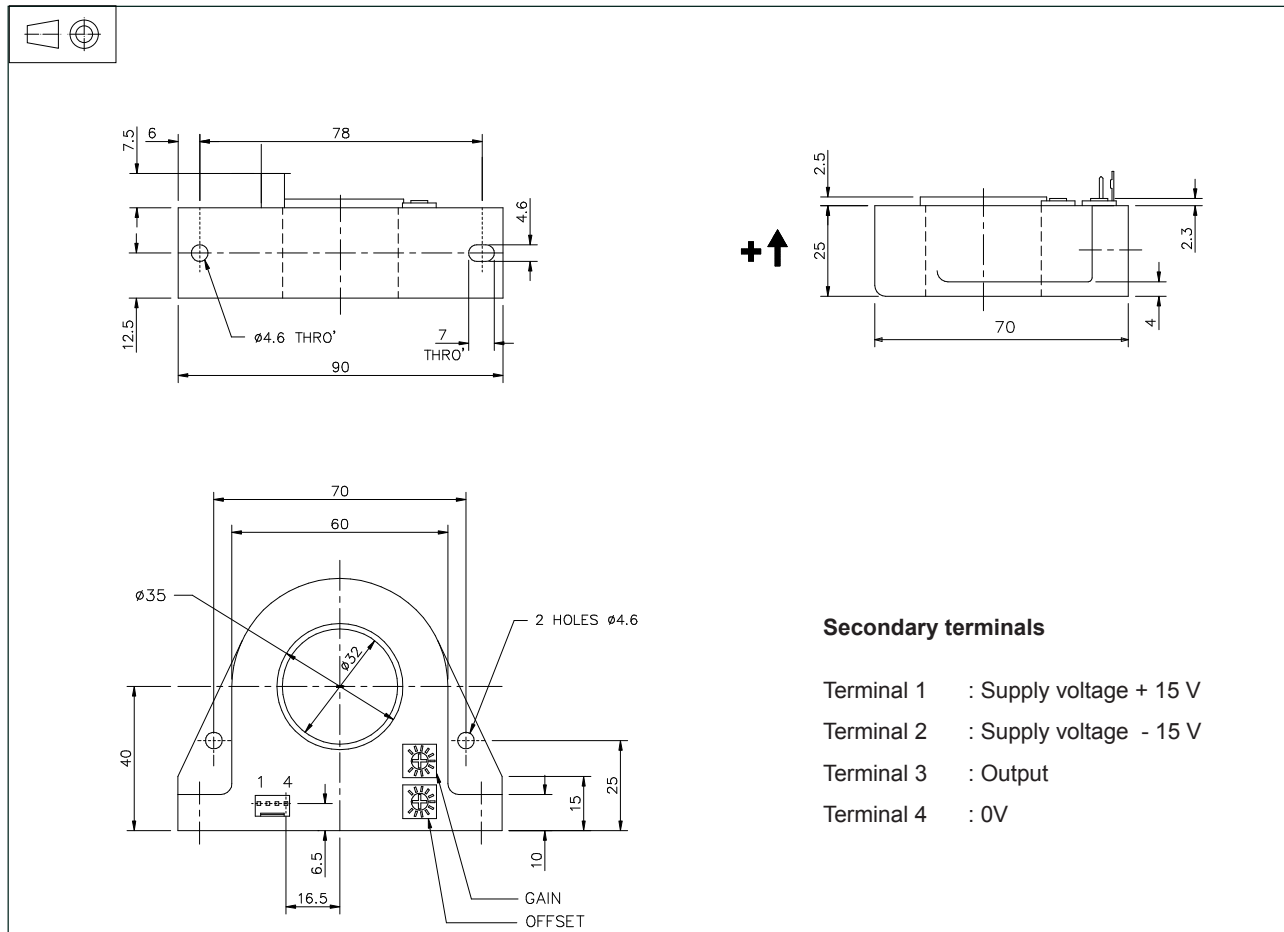
Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a build-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

## Dimensions HTA 100 .. 1000-S (in mm. 1 mm = 0.0394 inch)



### Secondary terminals

- Terminal 1 : Supply voltage + 15 V
- Terminal 2 : Supply voltage - 15 V
- Terminal 3 : Output
- Terminal 4 : 0V

### Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Primary through-hole  $\varnothing 32$  mm
- Connection of secondary Molex 5045-04A

### Remarks

- $V_{OUT}$  is positive when  $I_p$  flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed  $90^\circ\text{C}$ .
- This is a standard model. For different versions (supply voltages, secondary connections, unidirectional measurements, operating temperatures, etc.) please contact us.