

# Current Transducers HTB 50 .. 400-P and HTB 50 .. 100-TP

$I_{PN} = 50 \dots 400 \text{ A}$

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



## Electrical data

Primary nominal r.m.s. current $I_{PN}$ (A)	Primary current measuring range $I_p$ (A)	Type
50	$\pm 150$	HTB 50-P, HTB 50-TP <sup>1)</sup>
100	$\pm 300$	HTB 100-P, HTB 100-TP <sup>1)</sup>
200	$\pm 500$	HTB 200-P
300	$\pm 600$	HTB 300-P
400	$\pm 600$	HTB 400-P

$V_C$	Supply voltage ( $\pm 5\%$ ) <sup>2)</sup>	$\pm 12 \dots \pm 15$	V
$I_C$	Current consumption	$< \pm 15$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn	2.5	kV
$R_{IS}$	Isolation resistance @ 500 VDC	$> 500$	M $\Omega$
$V_{OUT}$	Output voltage @ $\pm I_{PN}$ , $R_L = 10 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$	$\pm 4$	V
$R_{OUT}$	Output internal resistance	100	$\Omega$
$R_L$	Load resistance	$\geq 10$	k $\Omega$

## Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500V
- Low power consumption
- Wide power supply:  $\pm 12\text{V}$  to  $\pm 15\text{V}$
- Primary bus bar option for 50A and 100A version for ease of connection

## Advantages

- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

## Applications

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

## Accuracy - Dynamic performance data

<b>X</b>	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (without offset)	$< \pm 1$	% of $I_{PN}$
<b>e<sub>L</sub></b>	Linearity ( $0 \dots \pm I_{PN}$ )	$< \pm 1$	% of $I_{PN}$
<b>V<sub>OE</sub></b>	Electrical offset voltage, $T_A = 25^\circ\text{C}$	$< \pm 30$	mV
<b>V<sub>OH</sub></b>	Hysteresis offset voltage @ $I_p = 0$ ; after an excursion of $3 \times I_{PN}$	$< \pm 1$	% of $I_{PN}$
<b>V<sub>OT</sub></b>	Thermal drift of $V_{OE}$ <b>HTB 50-(T)P</b>	$< \pm 2.0$	mV/K
	<b>HTB 100-(T)P..400-P</b>	$< \pm 1.0$	mV/K
<b>TCE<sub>G</sub></b>	Thermal drift (% of reading)	$< \pm 0.1$	%/K
<b>t<sub>r</sub></b>	Response time @ 90% of $I_p$	$< 3$	$\mu\text{s}$
<b>f</b>	Frequency bandwidth (0..-3 dB) <sup>3)</sup>	DC .. 50	kHz

## General data

<b>T<sub>A</sub></b>	Ambient operating temperature	-20 .. +80	$^\circ\text{C}$
<b>T<sub>S</sub></b>	Ambient storage temperature	-25 .. +85	$^\circ\text{C}$
<b>m</b>	Mass (-TP version)	$< 30$ ( $< 36$ )	g
	2 pins of $\varnothing 2\text{mm}$ diameter are available on transducer for PCB soldering.		

Notes : EN 50178 approval pending

<sup>1)</sup> -TP version is equipped with a primary bus bar.

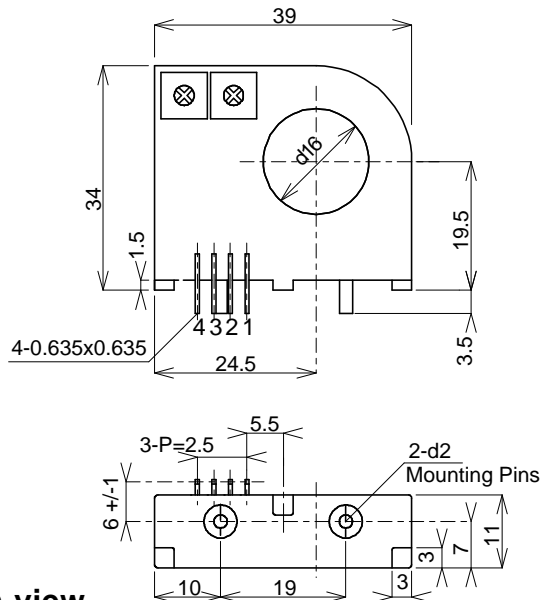
<sup>2)</sup> Operating at  $\pm 12\text{V} \leq V_C < \pm 15\text{V}$  will reduce measuring range.

<sup>3)</sup> Derating is needed to avoid excessive core heating at high frequency.

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## HTB 50 .. 400-P

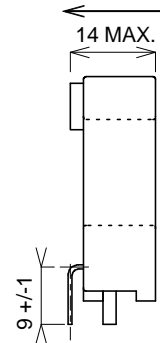
Back view



Bottom view

Left view

Positive Current Flow

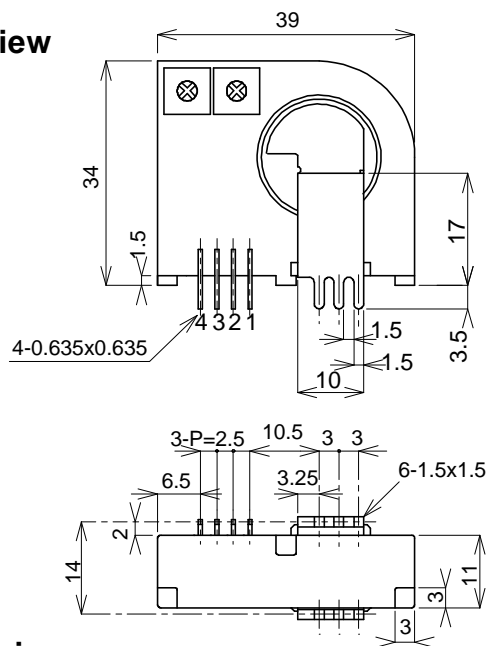


Secondary Pin Identification

- 1 +Vc
- 2 -Vc
- 3 Output
- 4 0V

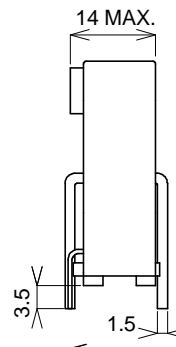
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