

# Current Transducers HTB 50 .. 400-P/SP5 and HTB 50 .. 100-TP/SP5

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

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/SP5, HTB 50-TP/SP5 <sup>1)</sup>
100	$\pm 300$	HTB 100-P/SP5, HTB 100-TP/SP5 <sup>1)</sup>
200	$\pm 500$	HTB 200-P/SP5
300	$\pm 600$	HTB 300-P/SP5
400	$\pm 600$	HTB 400-P/SP5

$V_C$	Supply voltage ( $\pm 5\%$ ) <sup>2)</sup>	+12 .. +15	V
$I_C$	Current consumption	<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 @ $\pm I_{PN}$ , $R_L = 10 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$	$V_{OE} \pm 1.667$	V
$R_{OUT}$	Output internal resistance	100	$\Omega$
$R_L$	Load resistance	$\geq 10$	k $\Omega$

## Accuracy - Dynamic performance data

$X$	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (without offset)	< $\pm 1$	% of $I_{PN}$
$e_L$	Linearity ( $0 \dots \pm I_{PN}$ )	< $\pm 1$	% of $I_{PN}$
$V_{OE}$	Electrical offset voltage, $T_A = 25^\circ\text{C}$	$V_C/2 \pm 30$	mV
$V_{OH}$	Hysteresis offset voltage @ $I_p = 0$ ; after an excursion of $3 \times I_{PN}$	< $\pm 0.5$	% of $I_{PN}$
$V_{OT}$	Thermal drift of $V_{OE}$	HTB 50-(T)P/SP5 HTB 100-(T)P..400-P/SP5	< $\pm 1.0$ < $\pm 0.5$ mV/K
$TCE_G$	Thermal drift (% of reading)	< $\pm 0.05$	%/K
$t_r$	Response time @ 90% of $I_p$	<3	$\mu\text{s}$
$f$	Frequency bandwidth (-3 dB) <sup>3)</sup>	DC .. 50	kHz

## General data

$T_A$	Ambient operating temperature	-25 .. +85	$^\circ\text{C}$
$T_S$	Ambient storage temperature	-25 .. +85	$^\circ\text{C}$
$m$	Mass (-TP version)	<30 (<36)	g

Notes : EN 50178 approval pending

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

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

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

## Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500V
- Low power consumption
- Primary bus bar option for 50A and 100A version for ease of connection

## Special Features

- Single power supply from 12V to 15V

## Advantages

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

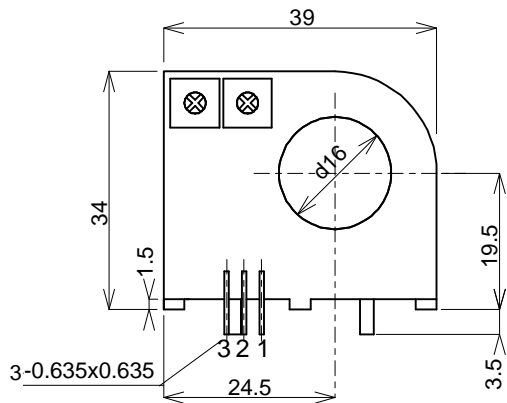
## Applications

- 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.

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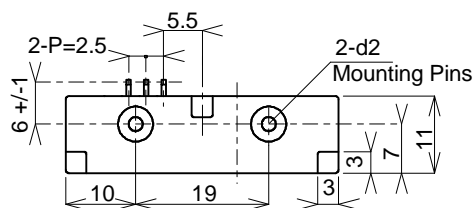
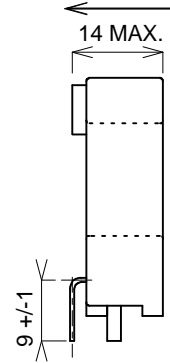
## HTB 50 ... 400-P/SP5

Back view



Left view

Positive Current Flow



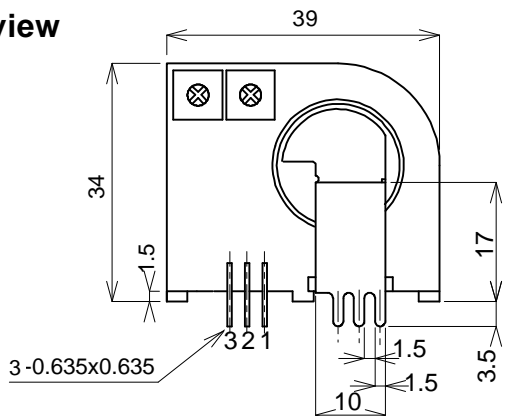
Secondary Pin Identification

- 1 +Vc
- 2 0V
- 3 Output

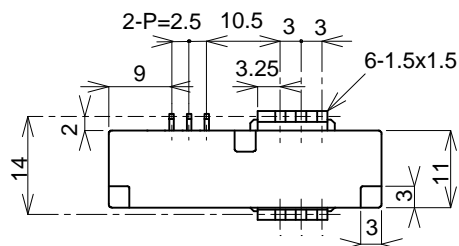
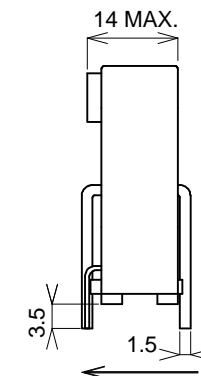
Bottom View

## HTB 50 ... 100-TP/SP5

Back view



Left view



Secondary Pin Identification

- 1 +Vc
- 2 0V
- 3 Output

Bottom view