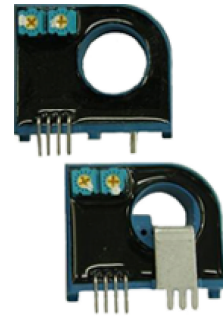


# Current Transducers HTB 50..400-P and HTB 50..100-TP

$$I_{PN\ DC} = \pm 50 \dots 400\ A$$

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 continuous direct current (nominal) $I_{PN\ DC}$ (A)	Primary current, measuring range $I_{PM}$ (A)	Type	RoHS since date code
± 50	± 150	HTB 50-P, HTB 50-TP <sup>1)</sup>	46104, 46166
± 100	± 300	HTB 100-P, HTB 100-TP <sup>1)</sup>	45178, 46183
± 200	± 500	HTB 200-P	45198
± 300	± 600	HTB 300-P	45225
± 400	± 600	HTB 400-P	46224

$V_C$	Supply voltage ( $\pm 5\%$ ) <sup>2)</sup>	± 12 .. 15	V
$I_C$	Current consumption	< ± 15	mA
$V_d$	Rms voltage for AC isolation test, 50 Hz, 1 min	2.5	kV
$R_{IS}$	Isolation resistance @ 500 VDC	> 500	MΩ
$V_{OUT}$	Output voltage (Analog) @ $\pm I_{PN\ DC}$ , $R_L = 10\ k\Omega$ , $T_A = 25^\circ C \pm 4$		V
$R_{OUT}$	Output internal resistance	100	Ω
$R_L$	Load resistance	≥ 10	kΩ

## Accuracy - Dynamic performance data

$X$	Accuracy @ $I_{PN\ DC}$ , $T_A = 25^\circ C$ (excluding offset)	< ± 1 % of $I_{PN\ DC}$
$e_L$	Linearity error ( $0 \dots \pm I_{PN\ DC}$ )	< ± 1 % of $I_{PN\ DC}$
$V_{OE}$	Electrical offset voltage, $T_A = 25^\circ C$	< ± 30 mV
$V_{OH}$	Hysteresis offset voltage @ $I_p = 0$ ; after an excursion of $1 \times I_{PN\ DC}$	< ± 1 % of $I_{PN\ DC}$
$TCV_{OE}$	Temperature coefficient of $V_{OE}$	HTB 50-(T)P < ± 2.0 mV/K HTB 100-(T)P..400-P < ± 1.0 mV/K
$TCV_{OUT}$	Temperature coefficient of $V_{OUT}$ (% of reading)	< ± 0.1 %/K
$t_r$	Response time to 90% of $I_{PN\ DC}$	< 3 μs
<b>BW</b>	Frequency bandwidth (0..-3 dB) <sup>3)</sup>	DC .. 50 kHz

## General data

$T_A$	Ambient operating temperature	- 20 .. + 80 °C
$T_S$	Ambient storage temperature	- 25 .. + 85 °C
$m$	Mass (-TP version)	< 30 (< 36) g
	Standards	EN 50178: 1997
	2 pins of Ø2mm diameter are available on transducer for PCB soldering.	

## Notes :

- <sup>1)</sup> -TP version is equipped with a primary bus bar.
- <sup>2)</sup> Operating at  $\pm 12V \leq V_C < \pm 15V$  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
- Wide power supply: ±12V to ±15V
- Primary bus bar option for 50A and 100A version for ease of connection

## Advantages

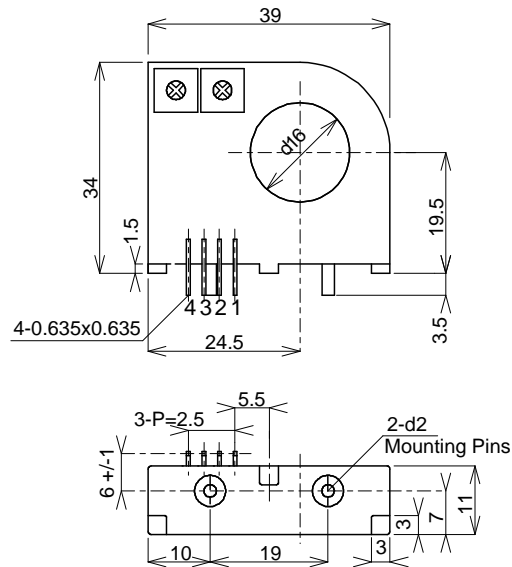
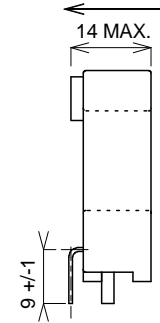
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

## Applications

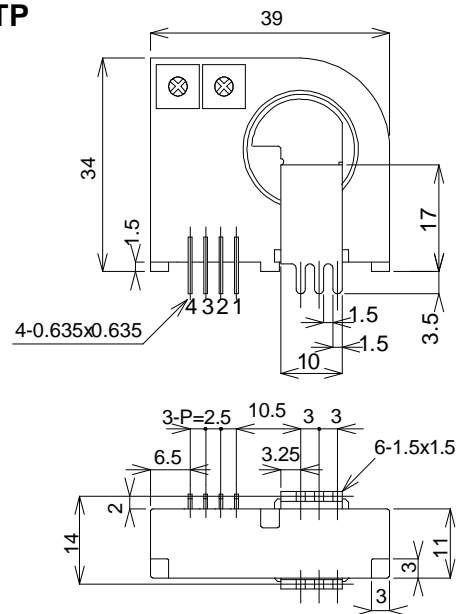
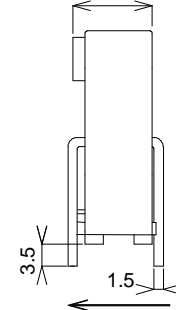
- AC variable speed drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

## Application domain

- Industrial

**Dimensions HTB 50..400-P and HTB 50..100-TP (in mm. 1 mm = 0.0394 inch)**
**HTB 50..400-P**

**Positive Current Flow**

**Secondary Pin Identification**

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

**General tolerance:  $\pm 0.5$  mm**
**HTB 50..100-TP**

**Positive Current Flow**

**Secondary Pin Identification**

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

**General tolerance:  $\pm 0.5$  mm**