



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 ¹⁾	46104, 46166
± 100	± 300	HTB 100-P, HTB 100-TP ¹⁾	45178, 46183
± 200	± 500	HTB 200-P	45198
± 300	± 600	HTB 300-P	45225
± 400	± 600	HTB 400-P	46224
V_C	Supply voltage ($\pm 5\%$) ²⁾		± 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

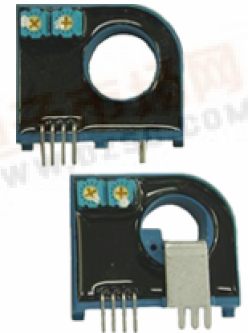
X	Accuracy @ $I_{PN\ DC}$, $T_A = 25^\circ C$ (excluding offset)	< ± 1 % of $I_{PN\ DC}$
e_L	Linearity error ($0 \dots \pm I_{PN\ DC}$)	< ± 1 % of $I_{PN\ DC}$
V_{OE}	Electrical offset voltage, $T_A = 25^\circ C$	< ± 30 mV
V_{OH}	Hysteresis offset voltage @ $I_p = 0$; after an excursion of $1 \times I_{PN\ DC}$	< ± 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
BW	Frequency bandwidth (0...3 dB) ³⁾	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 :

- ¹⁾ -TP version is equipped with a primary bus bar.
- ²⁾ Operating at $\pm 12V \leq V_C < \pm 15V$ will reduce measuring range.
- ³⁾ 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: $\pm 12V$ to $\pm 15V$
- 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.

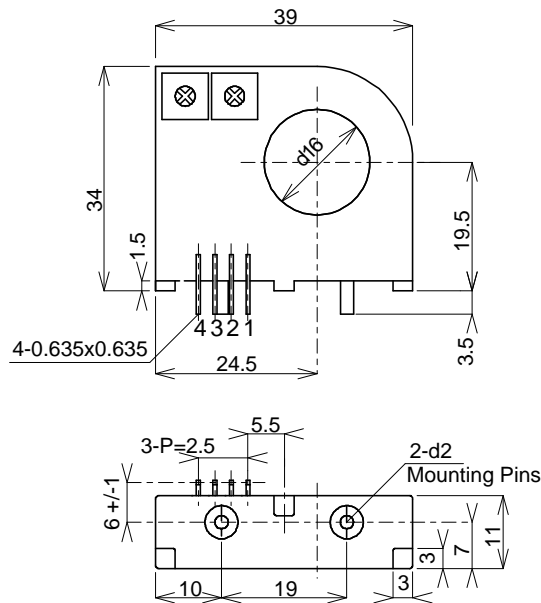
Application domain

- Industrial

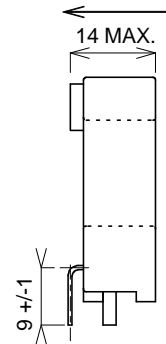


Dimensions HTB 50..400-P and HTB 50..100-TP (in mm. 1 mm = 0.0394 inch)

HTB 50..400-P



Positive Current Flow

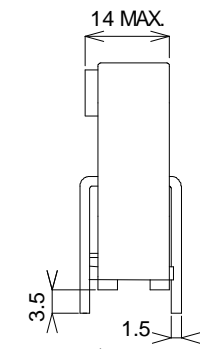
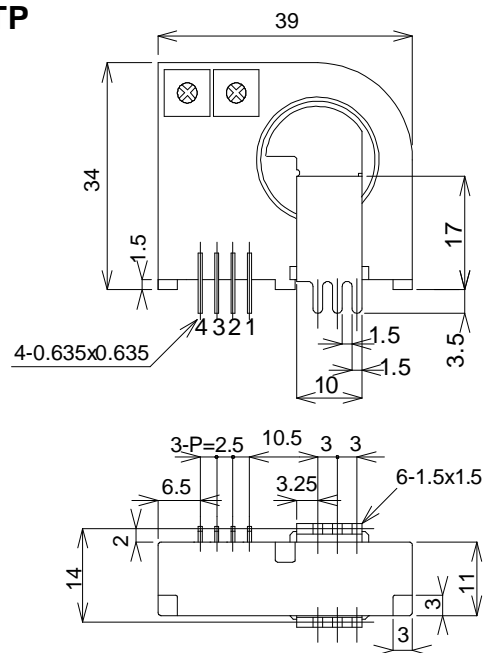


Secondary Pin Identification

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

General tolerance: ± 0.5 mm

HTB 50..100-TP



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