

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

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).



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



Electrical data

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

V_C	Supply voltage ($\pm 5\%$) ²⁾	$\pm 12 \dots \pm 15$	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 Ω
V_{OUT}	Output voltage @ $\pm I_{PN}$, $R_L = 10 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$	± 4	V
R_{OUT}	Output internal resistance	100	Ω
R_L	Load resistance	≥ 10	k Ω

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, $T_A = 25^\circ\text{C}$	$< \pm 30$	mV
V_{OH}	Hysteresis offset voltage @ $I_p = 0$; after an excursion of $3 \times I_{PN}$	$< \pm 1$	% of I_{PN}
V_{OT}	Thermal drift of V_{OE}	HTB 50-(T)P HTB 100-(T)P..400-P	$< \pm 2.0$ mV/K $< \pm 1.0$ mV/K
TCE_G	Thermal drift (% of reading)	$< \pm 0.1$	%/K
t_r	Response time @ 90% of I_p	< 3	μs
f	Frequency bandwidth (-3 dB) ³⁾	DC .. 50	kHz

General data

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

Notes : EN 50178 approval pending

¹⁾ -TP version is equipped with a primary bus bar.

²⁾ Operating at $\pm 12\text{V} \leq V_C < \pm 15\text{V}$ 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: $\pm 12\text{V}$ 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.

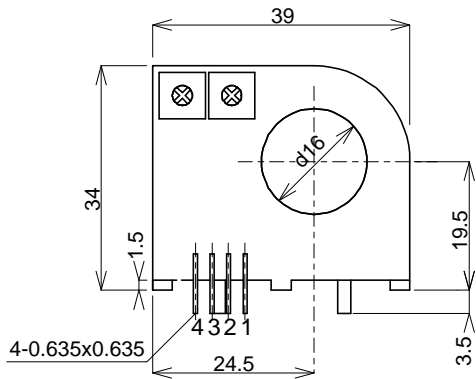
Applications

- 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.

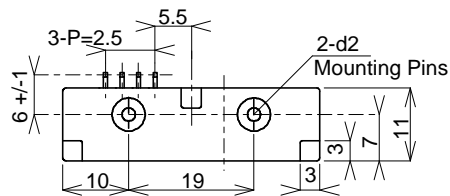
030529/7

HTB 50 .. 400-P

Back view

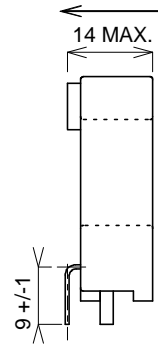


Bottom view



Left view

Positive Current Flow

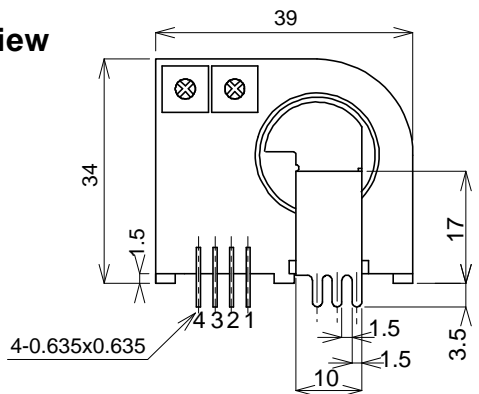


Secondary Pin Identification

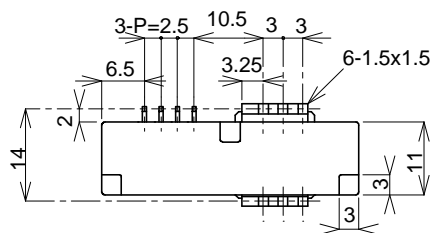
- 1 +Vc
- 2 -Vc
- 3 Output
- 4 0V

HTB 50 .. 100-TP

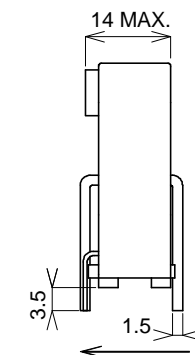
Back view



Bottom view



Left view



Positive Current Flow

Secondary Pin Identification

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