

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	±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 (±5 %) ²⁾	±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 MΩ
V_{OUT}	Output voltage @ ± 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 kΩ

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (without offset)	<±1 % of I_{PN}
e_L	Linearity (0 .. ± I_{PN})	<±1 % of I_{PN}
V_{OE}	Electrical offset voltage, $T_A = 25^\circ\text{C}$	<±30 mV
V_{OH}	Hysteresis offset voltage @ $I_p = 0$; after an excursion of $3 \times I_{PN}$	<±1 % of I_{PN}
V_{OT}	Thermal drift of V_{OE} HTB 50-(T)P	<±2.0 mV/K
	HTB 100-(T)P..400-P	<±1.0 mV/K
TCE_G	Thermal drift (% of reading)	<±0.1 %/K
t_r	Response time @ 90% of I_p	<3 μs
f	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
	2 pins of Ø2mm diameter are available on transducer for PCB soldering.	

Notes : EN 50178 approval pending

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

²⁾ Operating at ±12V ≤ V_C < ±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: ±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.

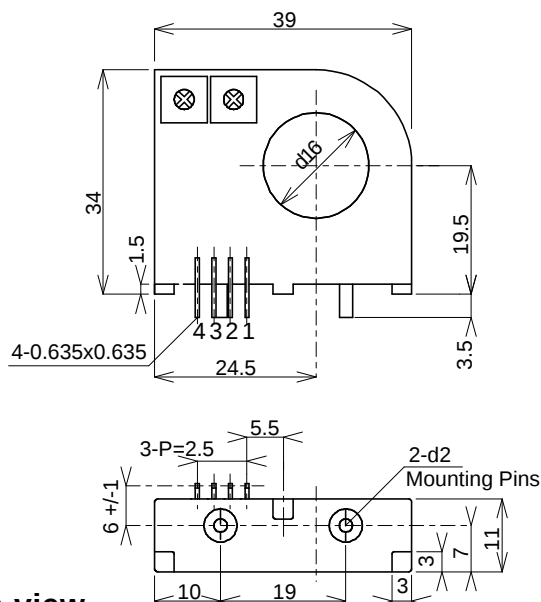
Applications

- 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.

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HTB 50 .. 400-P

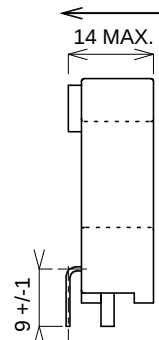
Back view



Bottom view

Left view

Positive Current Flow

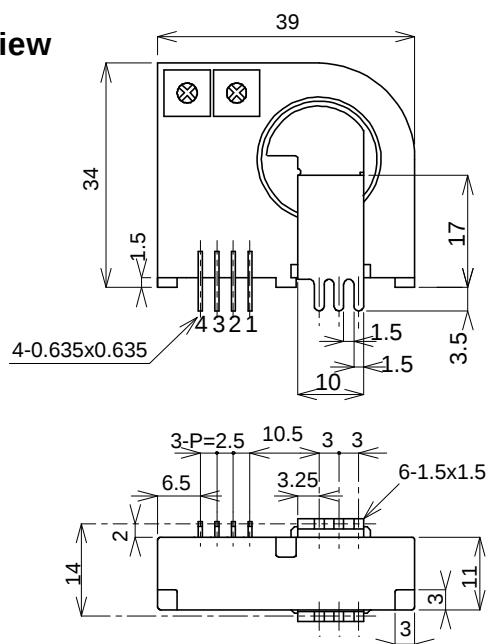


Secondary Pin Identification

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

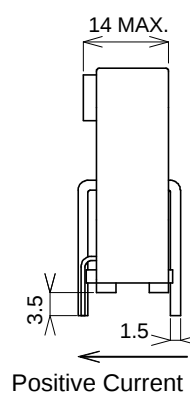
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