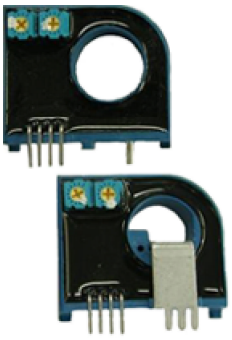
Current Transducers HTB 50..400-P and HTB 50..100-TP

$I_{PN\ DC}$ = ± 50 .. 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 (± 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) @ ± $I_{PN\ DC}$, R_L = 10 kΩ, T_A = 25°C	± 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°C (excluding offset)		< ± 1 % of $I_{PN\ DC}$	
ε_L	Linearity error (0 .. ± $I_{PN\ DC}$)		< ± 1 % of $I_{PN\ DC}$	
V_{OE}	Electrical offset voltage, T_A = 25°C		< ± 30	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0; after an excursion of 1 x $I_{PN\ DC}$		< ± 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 ±12V ≤ Vc < ±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

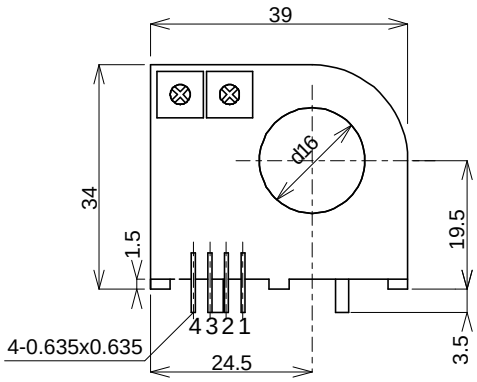
- AC variable speed drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

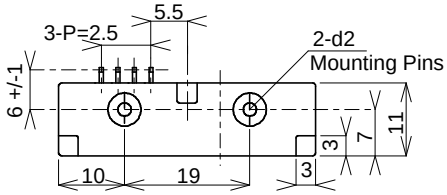
Application domain

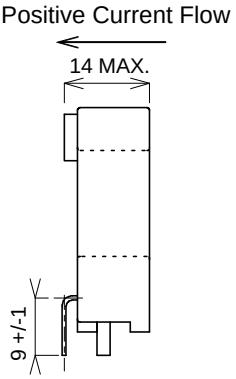
- Industrial

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

HTB 50..400-P





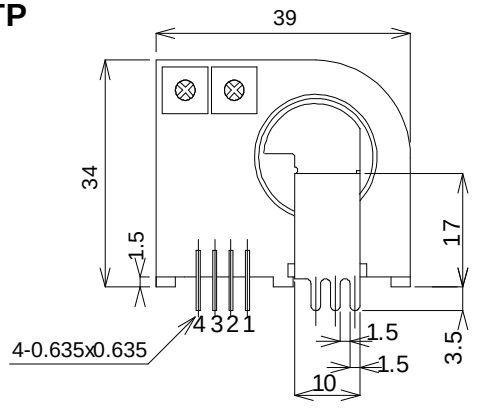


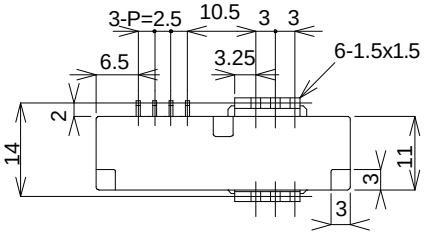
Secondary Pin Identification

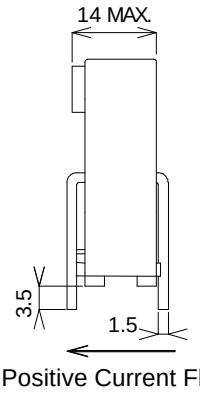
1 +Vc
2 -Vc
3 Output
4 0V

General tolerance: ± 0.5 mm

HTB 50..100-TP







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