Current Transducers HTB 50..400-P/SP5 and HTB 50..100-TP/SP5

I_{PN} = 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 nominal current rms I_{PN} (A)	Primary current measuring range I_{PM} (A)	Type
50	± 150	**HTB 50-P/SP5, HTB 50-TP/SP5**[1]
100	± 300	**HTB 100-P/SP5, HTB 100-TP/SP5**[1]
200	± 500	**HTB 200-P/SP5**
300	± 600	**HTB 300-P/SP5**
400	± 600	**HTB 400-P/SP5**

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}, R_L = 10 kΩ, T_A = 25°C	V_{OE} ± 1.667	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°C (excluding offset)		< ± 1	% of I_{PN}
ε_L	Linearity error (0 .. ± I_{PN})		< ± 1	% of I_{PN}
V_{OE}	Electrical offset voltage @ T_A = 25°C		Vc/2 ± 30	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0, after an excursion of 1 x I_{PN}		< ± 0.5	% of I_{PN}
TCV_{OE}	Temperature coefficient of V_{OE}	HTB 50-(T)P/SP5	< ± 1.0	mV/K
		HTB 100-(T)P..400-P/SP5	< ± 0.5	mV/K
TCV_{OUT}	Temperature coefficient of V_{OUT} (% of reading)		< ± 0.05	%/K
t_r	Response time to 90% of I_{PN} step		< 3	µs
BW	Frequency bandwidth (0 .. -3 dB)[3]		DC .. 50	kHz

General data

T_A	Ambient operating temperature	- 25 .. + 85	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
m	Mass (-TP version)	< 30 (< 36)	g

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500V
- Low power consumption
- Primary bus bar option for 50A and 100A version for ease of connection

Special feature

- Single power supply from 12V to 15V

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.

Notes :

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

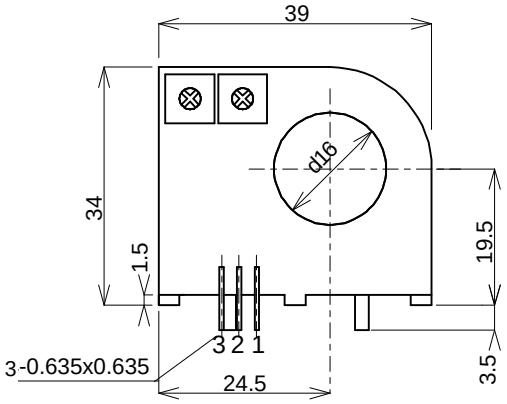
[2] Operating at +12V ≤ Vc < +15V will reduce measuring range.

[3] Derating is needed to avoid excessive core heating at high frequency.

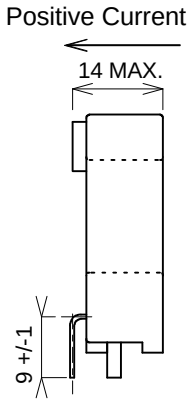
Dimensions HTB 50..400-P/SP5 and HTB 50..100-TP/SP5 (in mm. 1 mm = 0.0394 inch)

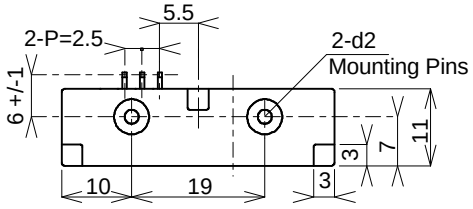
HTB 50..400-P/SP5

Back view



Left view





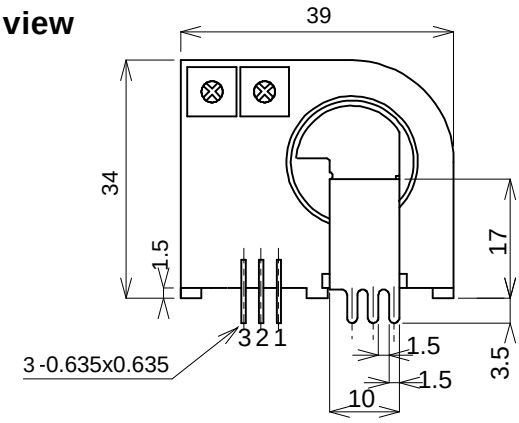
Secondary Pin Identification

1 +Vc
2 0V
3 Output

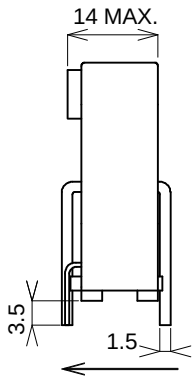
Bottom View

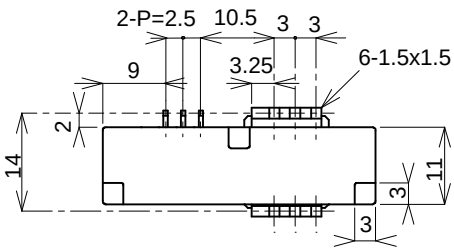
HTB 50..100-TP/SP5

Back view



Left view





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