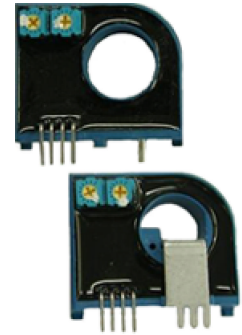


Current Transducers HTB 50..400-P and HTB 50..100-TP

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).



$$I_{PN\ DC} = \pm 50 \dots 400\ A$$



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) @ ± $I_{PN\ DC}$, $R_L = 10\ k\Omega$, $T_A = 25^\circ C \pm 4$ | | 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 .. ± $I_{PN\ DC}$) | < ± 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: ±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

