

Current Transducer HTY 50..100-P

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).

$$I_{PN} = 50 \dots 100 \text{ A}$$



Electrical data

| Primary nominal current rms I_{PN} (A) | Primary current measuring range I_{PM} (A) | Type | RoHS since date code |
|---|---|-----------|----------------------|
| 50 | ± 150 | HTY 50-P | 46115 |
| 75 | ± 225 | HTY 75-P | 46013 |
| 100 | ± 300 | HTY 100-P | 46067 |

| | | | |
|-----------|--|--------|----|
| V_C | Supply voltage (± 5 %) | ± 15 | V |
| I_C | Current consumption | < ± 20 | 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} , $R_L = 10 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$ | ± 4 | V |
| R_L | Load resistance | > 10 | kΩ |

Accuracy-Dynamic performance data

| | | | |
|-------------|---|--------------------------|---------------|
| X | Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (excluding offset) | < ± 1 | % of I_{PN} |
| e_L | Linearity error (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 $1 \times I_{PN}$ | < ± 15 | mV |
| TCV_{OE} | Temperature coefficient of V_{OE} | typ. ± 2.0 max. ± 3.0 | mV/K mV/K |
| TCV_{OUT} | Temperature coefficient of V_{OUT} (% of reading) | < ± 0.1 | %/K |
| t_r | Response time to 90% of I_{PN} step | < 7 | μs |
| BW | Frequency bandwidth (- 3 dB) ¹⁾ | DC .. 50 | kHz |

General data

| | | | |
|-------|-------------------------------|--------------|----|
| T_A | Ambient operating temperature | - 10 .. + 75 | °C |
| T_S | Ambient storage temperature | - 15 .. + 85 | °C |
| m | Mass | 30 | g |

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500 V
- Low power consumption
- Extended measuring range ($3 \times I_{PN}$)

Advantages

- Easy installation
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

Applications

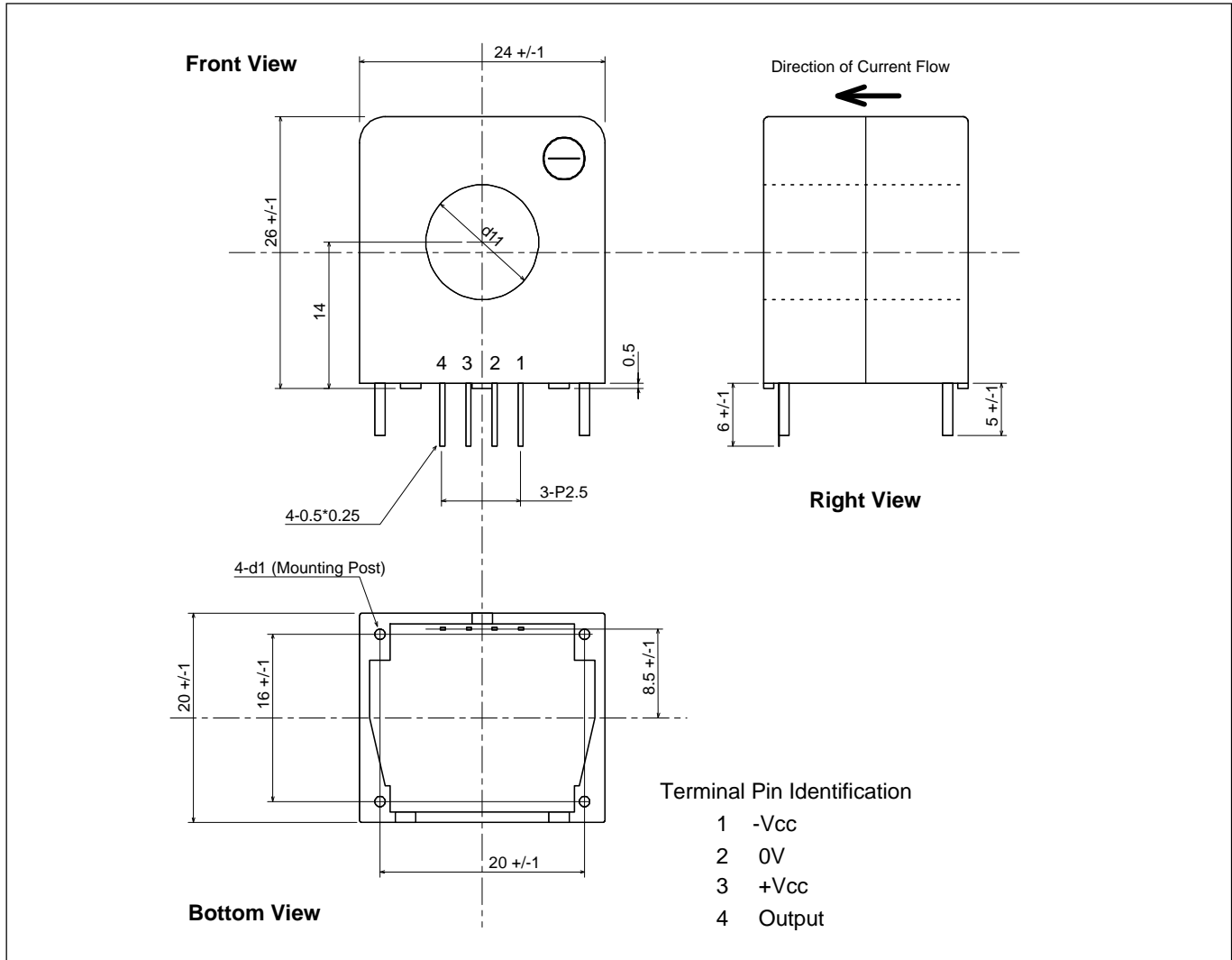
- DC motor drives
- Switched Mode Power Supplies (SMPS)
- AC variable speed drives
- Uninterruptible Power Supplies (UPS)
- Battery supplied applications
- Inverters

Application domain

- Industrial

Note :

¹⁾ Derating is needed to avoid excessive core heating at high frequency.

Dimensions HTY 50..100-P (in mm. 1 mm = 0.0394 inch)

Safety


This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.



Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.