Current Transducer HTC 250..4000-S/SP4

$I_{PN\ DC}$= 250..4000A

For the electronic measurement of currents: DC, AC, pulsed..., with 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
250	± 275	**HTC 250-S/SP4**
300	± 330	**HTC 300-S/SP4**
500	± 550	**HTC 500-S/SP4**
1000	± 1100	**HTC 1000-S/SP4**
1500	± 1650	**HTC 1500-S/SP4**
2000	± 2200	**HTC 2000-S/SP4**
2500	± 2750	**HTC 2500-S/SP4**
3000	± 3300	**HTC 3000-S/SP4**
4000	± 4400	**HTC 4000-S/SP4**

V_C	Supply voltage (± 3 %)	± 15	V
I_C	Current consumption	< ± 20	mA
R_{IS}	Insulation resistance @ 500 VDC	> 500	MΩ
V_{OUT}	Output voltage (Analog)@ ± $I_{PN\ DC}$, R_L= 2kΩ, T_A=25°C	± 10	V
R_{OUT}	Output internal resistance	< 100	Ω
V_d	Rms voltage for AC isolation test, 50 Hz,1min	2.5	kV
R_L	Load resistance	≥ 2	kΩ

Accuracy - Dynamic performance data

X	Accuracy @ $I_{PN\ DC}$, T_A = 25°C	< ± 1	% of $I_{PN\ DC}$
ε_L	Linearity error (0 .. ± $I_{PN\ DC}$)	< ± 1	% of $I_{PN\ DC}$
V_{OE}	Eletrical offset voltage @ T_A = 25°C	< ± 30	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0, after an excursion of 1 x $I_{PN\ DC}$	< ± 50	mV
TCV_{OE}	Temperature coefficient of V_{OE}	< ± 1.0	mV/K
TCV_{OUT}	Temperature coefficient of V_{OUT}	≤ ± 0.1	%/K
t_r	Response time to 90% of $I_{PN\ DC}$step @di/dt = 100A/µs	≤ 10	µs
BW	Frequency bandwidth (- 3 dB)	DC .. 10	kHz

General data

T_A	Ambient operating temperature	- 40 .. + 85	°C
T_S	Ambient storage temperature	- 40 .. + 85	°C
m	Mass	450	g
	Standard	EN 50155: 2007	

Features

- Hall effect measuring principle
- Galvanic insulation between primary and secondary circuit
- Isolated plastic case recognized according to UL 94-V0

Special feature

- Pbf RoHS

Advantages

- Easy installation
- Compact
- High immunity to external interference
- Low power consumption

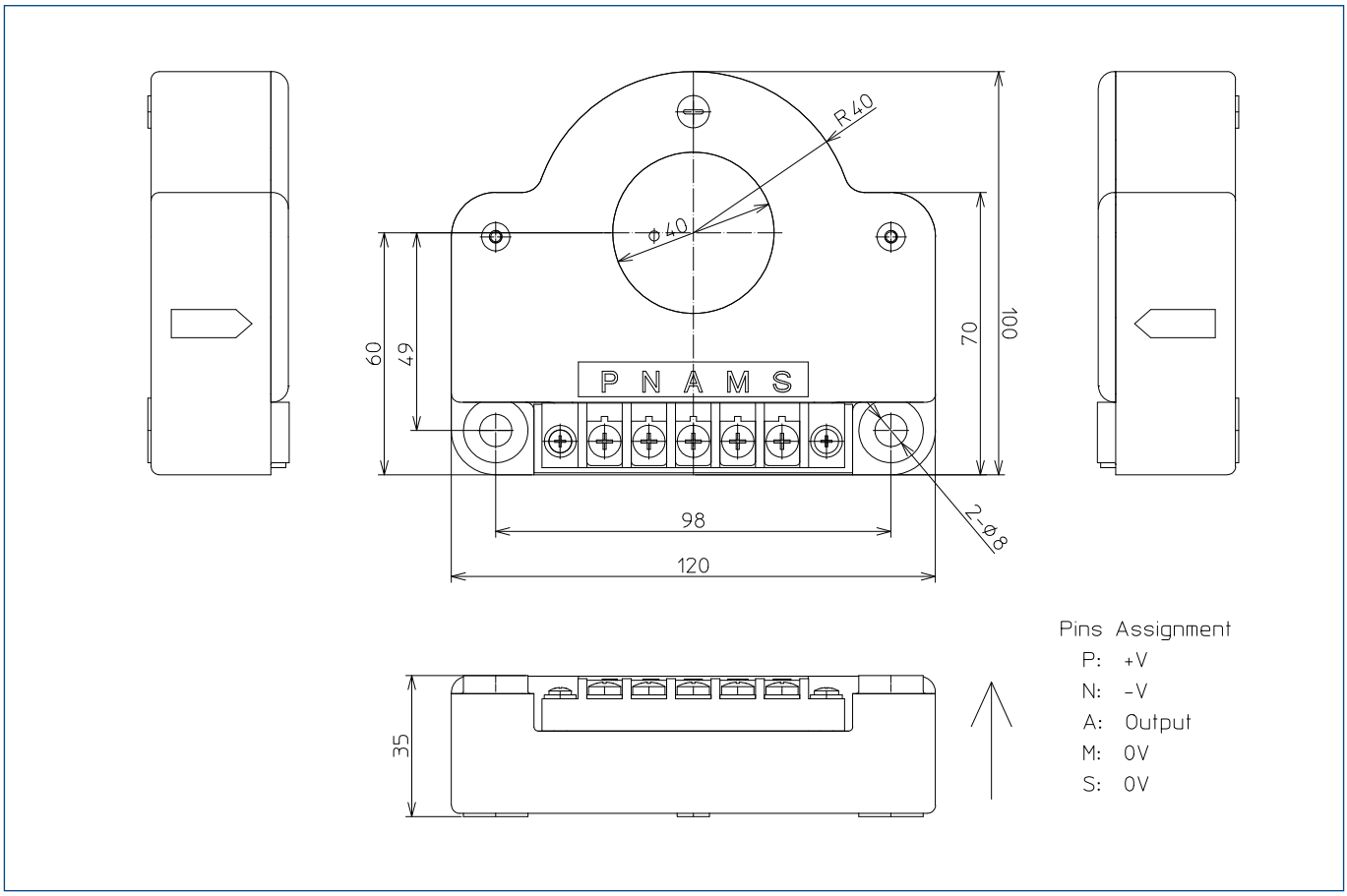
Applications

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

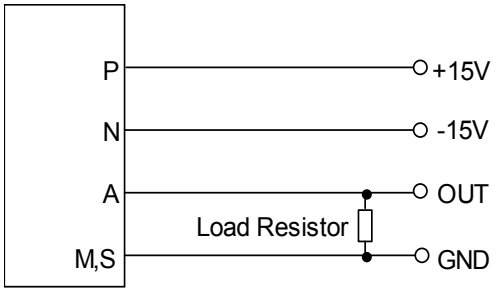
Application domain

- Traction

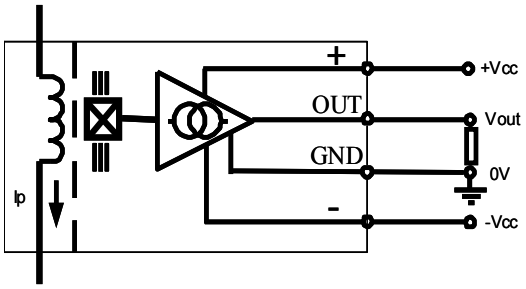
Dimensions HTC 250..4000-S/SP4 (in mm. 1 mm = 0.0394 inch)



Connection circuit



Operation principle



Mechanical characteristics

- General tolerance ± 1.0 mm
- Recommended fastening torque 2.6 ± 0.52 Nm

Safety

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the 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.