

Current Transducer HTC 250..4000-S/SP4

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



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



Electrical data

Primary continuous direct current (nominal)	Primary current measuring range	Type
$I_{PN\ DC}$ (A)	I_{PM} (A)	
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) @ ± $I_{PN\ DC}$, $R_L = 2k\Omega$, $T_A = 25^\circ C$	± 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 @ $I_{PN\ DC}$, $T_A = 25^\circ C$	< ± 1	% of $I_{PN\ DC}$
ϵ_L	Linearity error (0 .. ± $I_{PN\ DC}$)	< ± 1	% of $I_{PN\ DC}$
V_{OE}	Electrical offset voltage @ $T_A = 25^\circ C$	< ± 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

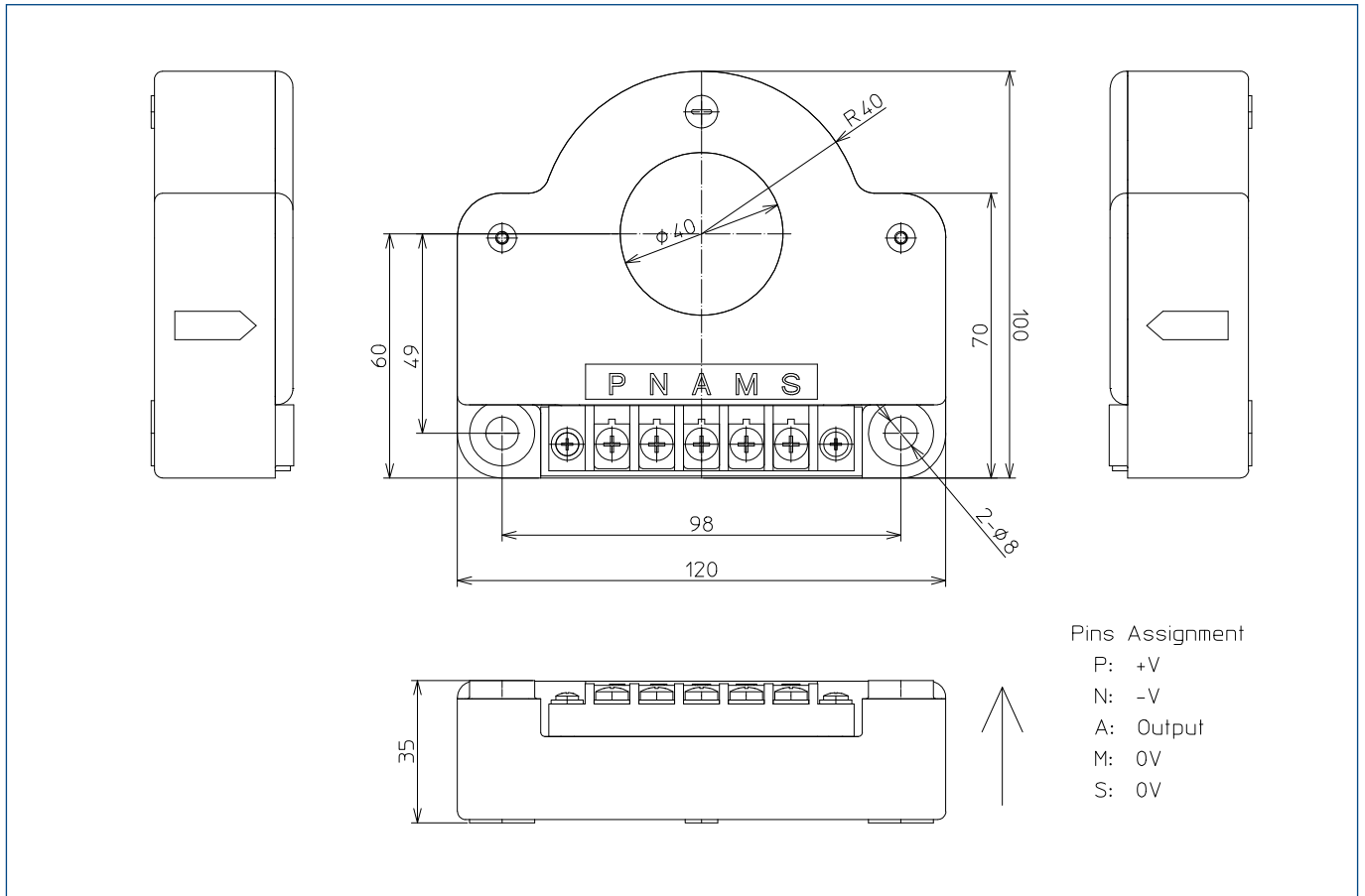
Applications

- 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.

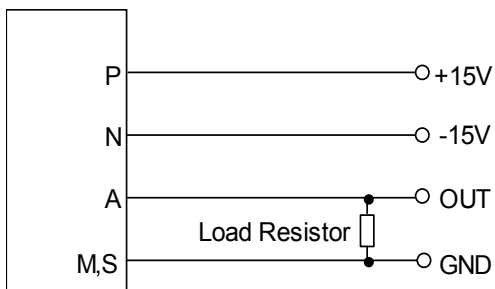
Application domain

- Traction

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



Connection circuit



Mechanical characteristics

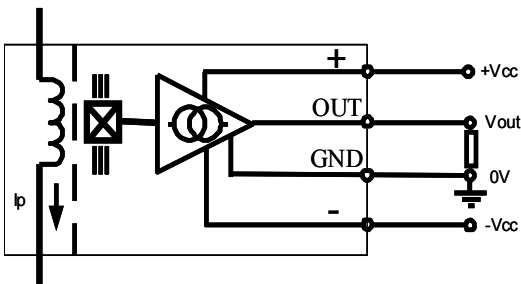
- General tolerance ± 1.0 mm
- Recommended fastening torque 2.6 ± 0.52 Nm

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.

Operation principle



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.