

Current Transducer HTA 1000-S/SP16

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

$$I_{PN} = 1000 \text{ A}$$



Electrical data

\hat{I}_{PN}	Primary nominal current peak	1000	A
I_{PM}	Primary current, measuring range	0 .. ± 1000	A
V_{OUT}	Output voltage (Analog) @ I_{PN}	± 10	V
V_C	Supply voltage ($\pm 10\%$)	± 15	V
I_C	Current consumption	< 25	mA
R_{IS}	Isolation resistance @ 500 V _{DC}	> 500	M Ω

Accuracy - Dynamic performance data

X	Accuracy ¹⁾ @ I_{PN} , $T_A = 25^\circ\text{C}$, @ $\pm 15 \text{ V}$	± 1	%
V_{OE}	Electrical offset voltage, @ $T_A = 25^\circ\text{C}$	< ± 10	mV
TCV_{OE}	Temperature coefficient of V_{OE}	< ± 1	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
di/dt	di/dt accurately followed	> 50	A/ μs
BW	Frequency bandwidth (small signal) ²⁾	DC .. 25	kHz

General data

T_A	Ambient operating temperature	- 25 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 85	$^\circ\text{C}$
m	Mass	230	g
	Standard	EN 50178:1994	

Notes: ¹⁾ Excludes the electrical offset

²⁾ Refer to derating curves in the technical file to avoid excessive core heating at high frequency.

Features

- Open loop transducer using Hall effect
- Panel mounting-Horizontal or Vertical
- Isolated plastic case recognized according to UL 94-V0.

Special feature

- Output connector :
Molex 39-28-1043
(Old part number is 5566-04A).

Advantages

- Very good linearity
- Very good accuracy
- Low temperature drift
- Wide frequency bandwidth
- Very low insertion losses
- High immunity to external interference
- Current overload capability
- 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

- Industrial.

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Isolation characteristics

V_d	Rms voltage for AC isolation test ¹⁾ , 50 Hz, 1 min	4.0	kV
\hat{V}_w	Impulse withstand voltage 1.2/50 μ s	> 7.3	kV
		Min	
dCp	Creepage distance	7.2	mm
dCI	Clearance distance	7.2	mm
CTI	Comparative Tracking Index (group I)	600	

Applications examples

According to EN 50178 and IEC 61010-1 standards and following conditions:

- Over voltage category III
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
dCp, dCI, \hat{V}_w	Rated insulation voltage	Nominal voltage
Basic insulation	600 V	600 V
Reinforced insulation	300 V	300 V

Note: ¹⁾ With the primary conductor located in the upper half of the aperture.

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 build-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.

