

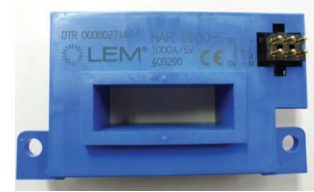
Current Transducer HAR 1000-S

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



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

$$V_{OUT} = \pm 5 \text{ V}$$



Electrical data

I_{PN}	Primary nominal current rms	± 1000	A
I_{PM}	Primary current, measuring range @ $V_C = \pm 15\text{V}$	± 2500	A
V_C	Supply voltage ($\pm 5\%$)	± 15	V
I_C	Current consumption	$< \pm 20$	mA
R_{IS}	Isolation resistance @ 500 VDC	> 500	M Ω
V_{OUT}	Output voltage (Analog) @ $\pm I_{PN}$, $R_L = 10\text{k}\Omega$, $T_A = 25^\circ\text{C}$	± 5	V
R_{OUT}	Output internal resistance	< 100	Ω
V_b	Rated isolation voltage rms	≥ 2.1	kV
V_d	Rms voltage for AC isolation test, 50Hz, 1min	≥ 7	kV
R_L	Load resistance	≥ 10	k Ω
V_e	Partial discharge extinction voltage rms @ $\leq 10\text{pC}$	≥ 3.6	kV

Accuracy - Dynamic performance data

X	Accuracy ²⁾ @ I_{PN} , $T_A = 25^\circ\text{C}$, $V_C = \pm 15\text{V}$, $R_L = 10\text{k}\Omega$	$< \pm 0.5\%$ of I_{PN}
ϵ_L	Linearity error ($0 \dots \pm I_{PN}$)	$< \pm 0.5\%$ of I_{PN}
V_O	Offset voltage @ $T_A = 25^\circ\text{C}$	$< \pm 20$ mV
V_{OH}	Hysteresis offset voltage @ $I_P = 0$, after an excursion of $1 \times I_{PN}$	$< \pm 15$ mV
V_{OT}	Temperature variation of V_O (between $-40 \dots +70^\circ\text{C}$)	$< \pm 50$ mV
	Temperature variation of V_{OUT} (between $-40 \dots +70^\circ\text{C}$)	$< \pm 5.5\%$ of I_{PN}
t_r	Response time to 90% of I_{PN} step	≤ 5 μs
BW	Frequency bandwidth (-3 dB)	DC .. 10 kHz

General data

T_A	Ambient operating temperature	$-40 \dots +70^\circ\text{C}$
T_S	Ambient storage temperature	$-40 \dots +85^\circ\text{C}$
m	Mass	400 g
dCp	Creepage distance	≥ 26 mm
dCI	Clearance	≥ 19 mm
	Standards	EN 50155: 2007 ³⁾

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 7000V
- Extended measuring range
- Isolated plastic case recognized according to UL 94-V0

Advantages

- Easy installation
- Small size and space saving
- High immunity to external interference
- Low power consumption

Applications

- Train

Application domain

- Traction

Note: ¹⁾ Basic insulation, overvoltage category III, pollution degree 2.

²⁾ Accuracy data exclude the electrical offset.

³⁾ Regarding compliance towards IEC 61000-4-3 (EN 50121-3-2 (2006)):

Output is above to 50% of V_{sn} between 200 MHz and 300 MHz with a field intensity of 20 [V/m]

