

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).

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

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



Electrical data

I_{PN}	Primary nominal current	± 1000	A
I_P	Primary current, measuring range @ $V_C = \pm 15V$	± 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 @ $\pm I_{PN}$, $R_L = 10\text{ k}\Omega$, $T_A = 25^\circ\text{C}$	± 5	V
R_{OUT}	Output internal resistance	< 100	Ω
V_b	R.m.s. rated isolation voltage	≥ 2.1	kV
V_d	R.m.s. voltage for AC isolation test, 50/60Hz, 1mn	≥ 7	kV
R_L	Load resistance	≥ 10	k Ω
V_e	Partial discharge extinction voltage @ $\leq 10\text{ pC}$	≥ 3.6	kV

Accuracy-Dynamic performance data

X	Accuracy ²⁾ @ I_{PN} , $T_A = 25^\circ\text{C}$, $V_C = \pm 15V(\pm 5\%)$	$< \pm 0.5$	% of I_{PN}
e_L	Linearity ($0 \dots \pm I_{PN}$)	$< \pm 0.5$	% of I_{PN}
TCE_G	Thermal drift of the gain (between $-40 \dots +70^\circ\text{C}$)	$\leq \pm 5.5$	% of I_{PN}
V_{OE}	Electrical 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}	Thermal drift of offset (between $-40 \dots +70^\circ\text{C}$)	$< \pm 50$	mV
t_r	Response time @ 90% of I_p	≤ 5	μs
f	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
	Creepage distance	≥ 26	mm
	Clearance	≥ 19	mm
	Standards	EN 50155, prEN 50124	

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

²⁾ Accuracy data exclude the electrical offset.

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 7kV
- Wide measuring range ($2.5 \times I_{PN}$)
- UL 94-V0 rated

Advantages

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

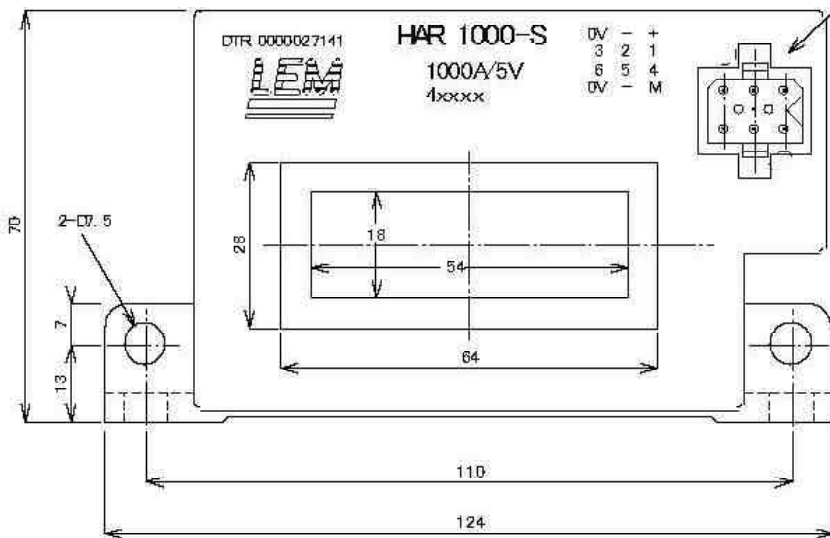
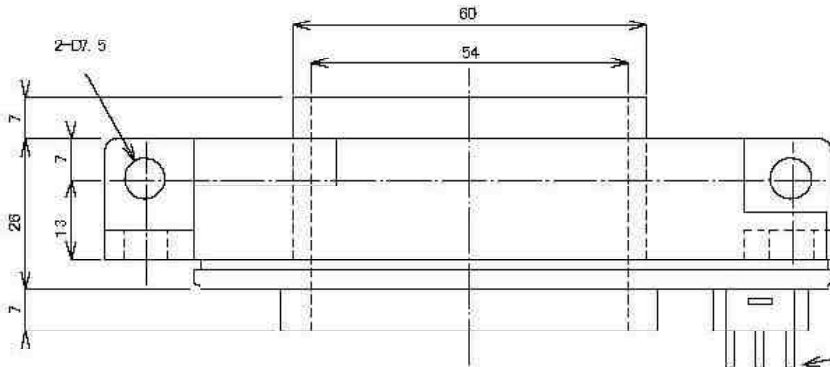
Applications

- Traction

HAR 1000-S

Dimensions (in mm)

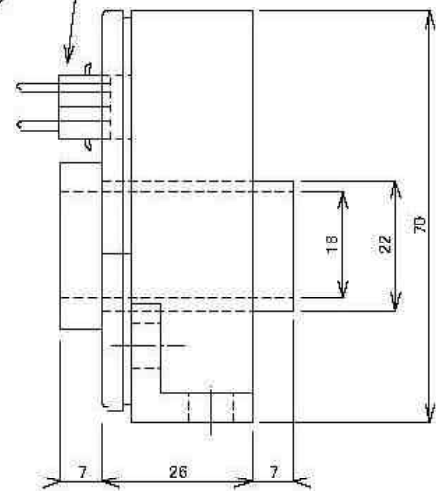
Bottom view



Front view

SMS6GE4

Left view



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Direction of Current

Secondary Pin Identifications

- Pin 1 : +15 V
- Pin 2 : -15 V
- Pin 3 : 0 V
- Pin 4 : Output
- Pin 5 : -15 V
- Pin 6 : 0 V

Mechanical characteristics

- General tolerance : ±1.0 mm
- Fastening : 4 x Ø7.5 mm
- Fastening : Max 6.2 Nm
- Aperture : 54mm x 18mm
- Connection of secondary : Burndy SMS6GE4
- The primary bus bar temperature should not exceed 100 °C