

Current Transducer LC 1000-S/SP7

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

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



Electrical data

I_{PN}	Primary nominal r.m.s. current	1000	A
I_P	Primary current, measuring range	0 .. ± 3000	A
R_M	Measuring resistance	$R_{M \min}$ $R_{M \max}$	
	with $\pm 24 \text{ V}$	@ $\pm 1000 \text{ A}_{\max}$	1 59 Ω
		@ $\pm 3000 \text{ A}_{\max}$	1 3 Ω
I_{SN}	Secondary nominal r.m.s. current	250	mA
K_N	Conversion ratio	1 : 4000	
V_C	Supply voltage ($\pm 10 \%$)	± 24	V
I_C	Current consumption	$45 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	3	kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.2	%
ϵ_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ Max	
I_{OT}	Thermal drift of I_O	± 0.25 ± 0.4	mA
t_r	Response time ¹⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth (-1 dB)	DC .. 100	kHz

General data

T_A	Ambient operating temperature	0 .. +70	$^\circ\text{C}$
T_S	Ambient storage temperature	-25 .. +85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	25	Ω
m	Mass	760	g
	Standards	EN 50178	

Features

- Closed loop (compensated) current transducer using the Hall effect
- Printed circuit board mounting 200 x 108 mm.

Special features

- $I_P = 0 .. \pm 3000 \text{ A}$
- $K_N = 1 : 4000$
- $V_C = \pm 24 (\pm 5 \%) \text{ V}$
- Connection of secondary on type B3P-VH connector (or equivalent).

Advantages

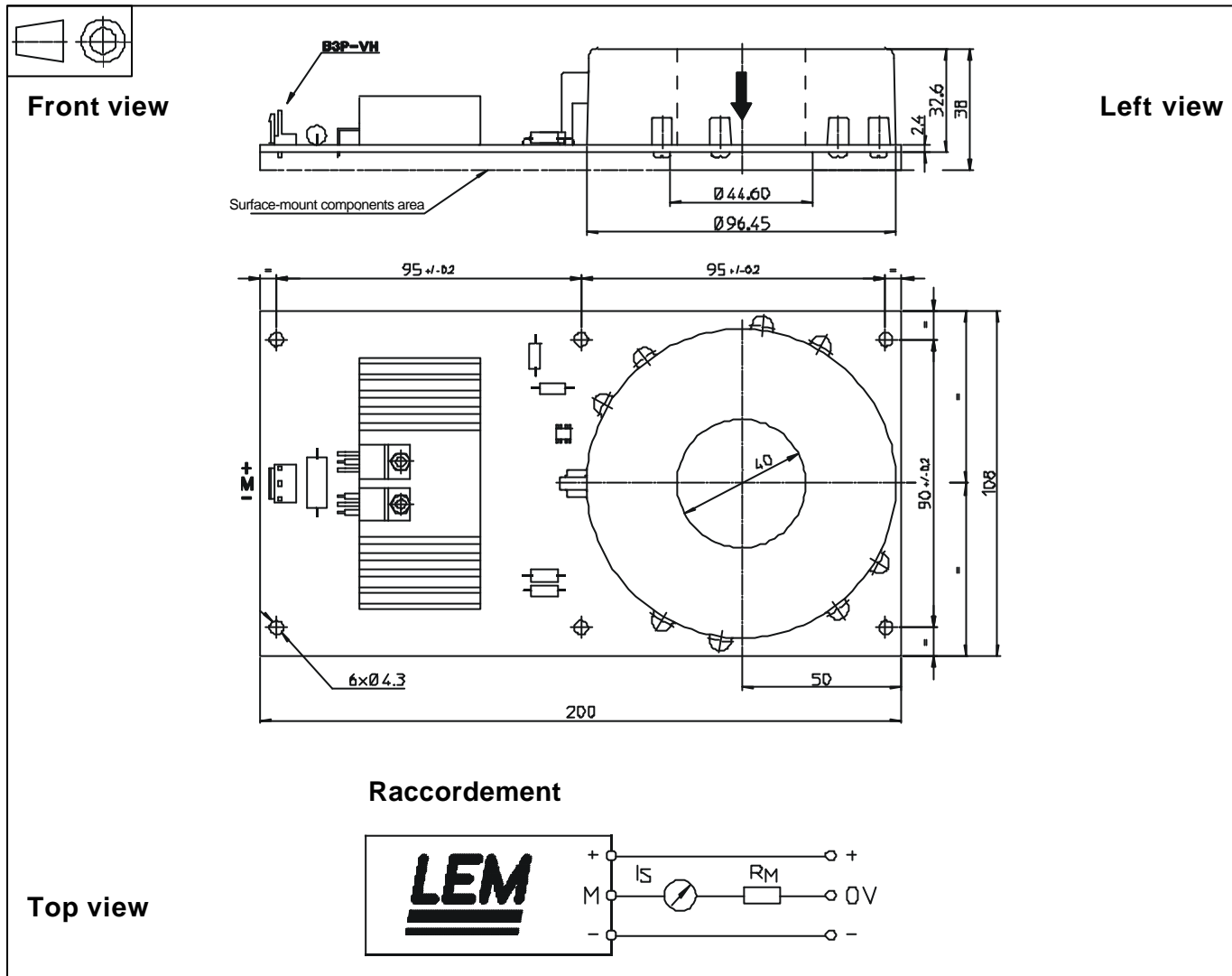
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Short response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capacity.

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.

Notes : ¹⁾ With a di/dt of 100 A/ μs .

Dimensions LC 1000-S/SP7 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening 6 holes $\varnothing 4.3$ mm
6 M4 steel screws
Fastening torque max 3.4 Nm or 2.51 Lb.-Ft.
- Primary through-hole $\varnothing 40$ mm
- Connection of secondary B3P-VH connector (or equivalent)

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.