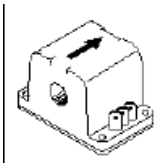
Current Transducer LB 100-S/SP3

I_{PN} = 100 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		100		A
I_P	Primary current, measuring range		0 .. ± 200		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ± 15 V	@ ± 100 A $_{max}$	0	85	W
		@ ± 200 A $_{max}$	0	30	W
I_{SN}	Secondary nominal r.m.s. current		100		mA
K_N	Conversion ratio		1 : 1000		
V_C	Supply voltage (± 5 %)		± 15		V
I_C	Current consumption		20+I_S		mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn		5 [1]		kV

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C		± 0.5		%
ε_L	Linearity		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.4	mA
I_{OT}	Thermal drift of I_O	+ 10°C .. + 50°C	± 0.35	± 0.4	mA
t_r	Response time [2] @ 90 % of I_{PN}		< 1		µs
di/dt	di/dt accurately followed		> 50		A/µs
f	Frequency bandwidth (- 1 dB)		DC .. 150		kHz
	Zero crossing distortion		negligeable		

General data

T_A	Ambient operating temperature	+ 10 .. + 50	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 50°C	25	W
m	Mass	180	g
	Standards [3]	EN 50178	

Notes : [1] Between primary and secondary.
[2] With a di/dt of 100 A/µs
[3] A list of corresponding tests is available.

Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0.

Special features

- V_C = ± 15 (± 5 %) V
- Better zero crossing performance
- T_A = + 10°C .. + 50°C
- Potted.

Advantages

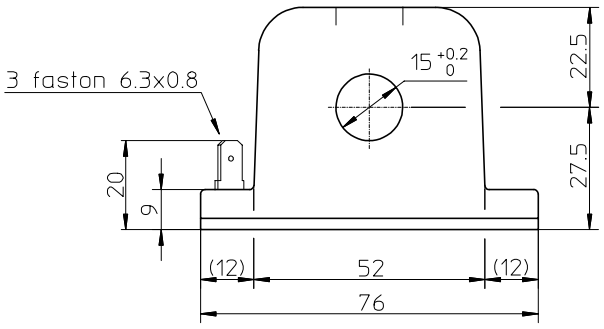
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

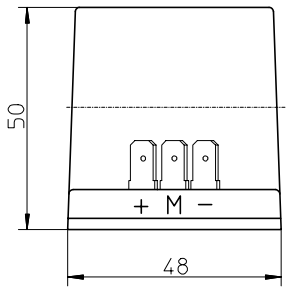
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications
- HVDC transmisions.

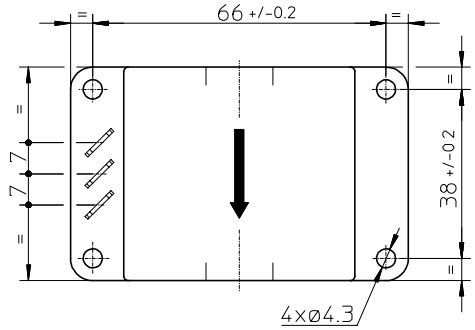
Dimensions LB 100-S/SP3 (in mm. 1 mm = 0.0394 inch)

Front view



Left view



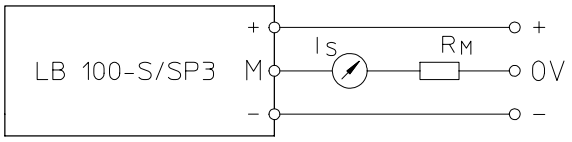


Top view

Secondary terminals

Terminal + : supply voltage + 15 V
Terminal M : measure
Terminal - : supply voltage - 15 V

Connection



Mechanical characteristics

· General tolerance	± 0.3 mm
· Fastening	4 holes Æ 4.3 mm
· Primary through-hole	Æ 15 mm
· Connection of secondary	Faston 6.3 x 0.8 mm

Remarks

- I_S is positive when I_P flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 70°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.