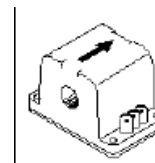


Current Transducer LB 100-S/SP3

$$I_{PN} = 100 \text{ A}$$

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	100	A			
I_P	Primary current, measuring range	0 .. ± 200	A			
R_M	Measuring resistance	$R_{M \min}$	$R_{M \max}$			
		with $\pm 15 \text{ V}$	@ $\pm 100 \text{ A}_{\max}$	0	85	Ω
			@ $\pm 200 \text{ A}_{\max}$	0	30	Ω
I_{SN}	Secondary nominal r.m.s. current	100	mA			
K_N	Conversion ratio	1 : 1000				
V_C	Supply voltage ($\pm 5 \%$)	± 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 @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.5	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ Max	± 0.4 mA
I_{OT}	Thermal drift of I_O + $10^\circ\text{C} \dots + 50^\circ\text{C}$	± 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	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 50^\circ\text{C}$	25	Ω
m	Mass	180	g
	Standards ³⁾	EN 50178	

Features

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

Special features

- $V_C = \pm 15 (\pm 5 \%) \text{ V}$
- Better zero crossing performance
- $T_A = + 10^\circ\text{C} \dots + 50^\circ\text{C}$
- 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

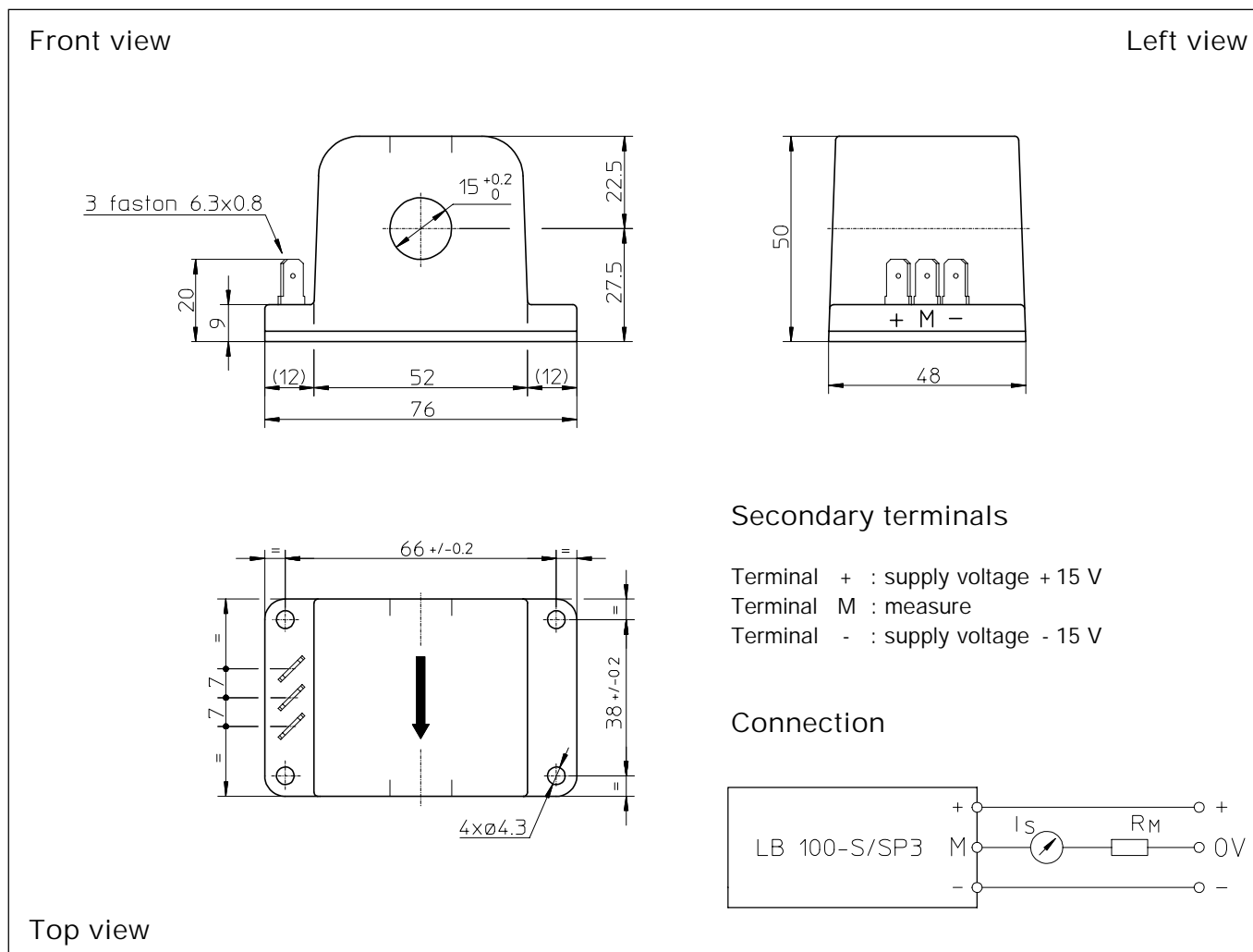
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications
- HVDC transmissions.

Notes : ¹⁾ Between primary and secondary.

²⁾ With a di/dt of 100 A/ μs

³⁾ A list of corresponding tests is available.

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



Mechanical characteristics

- General tolerance ± 0.3 mm
- Fastening 4 holes ∅ 4.3 mm
- Primary through-hole ∅ 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.