

Current Transducer LB 200-S/SP4

$$I_{PN} = 200 \text{ A}$$

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	200	A		
I_p	Primary current, measuring range	0 .. ± 300	A		
R_M	Measuring resistance with $\pm 15 \text{ V}$	R_{Mmin}	R_{Mmax}		
				@ $\pm 200 \text{ A}_{max}$	5
		@ $\pm 300 \text{ A}_{max}$	5	15	Ω
I_{SN}	Secondary nominal r.m.s. current	200	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	6 ¹⁾	kV		
		1 ²⁾	kV		

Accuracy - Dynamic performance data

X_G	Overall 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
I_{OT}	Thermal drift of I_o + $20^\circ\text{C} \dots + 50^\circ\text{C}$	± 0.50	mA
		± 0.08	mA
t_r	Response time ³⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth (-1 dB)	DC .. 150	kHz
	Output noise	< 0.002	mA
	Magnetization after excursion @ $\pm I_{PN}$	< 0.01	mA
	Crossing distortion	negligeable	
	Matching specification + $20^\circ\text{C} \dots + 50^\circ\text{C}$	≤ 0.01	mA

General data

T_A	Ambient operating temperature	+ 20 .. + 50	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 50^\circ\text{C}$	30	Ω
m	Mass	200	g
	Standards ⁴⁾	EN 50178	

Notes : 1) Between primary and secondary + shield.

2) Between secondary and shield.

3) With a di/dt of 100 A/ μs

4) 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

- $V_C = \pm 15 \text{ V}$ ($\pm 5 \%$)
- $K_N = 1 : 1000$
- Shield
- Negligeable zero crossing distortion
- Low noise electronics
- $T_A = + 20^\circ\text{C} \dots + 50^\circ\text{C}$
- Low I_{OT}
- Transducers matched based on thermal drift to within $T_A \leq 0.01 \text{ mA}$.

Advantages

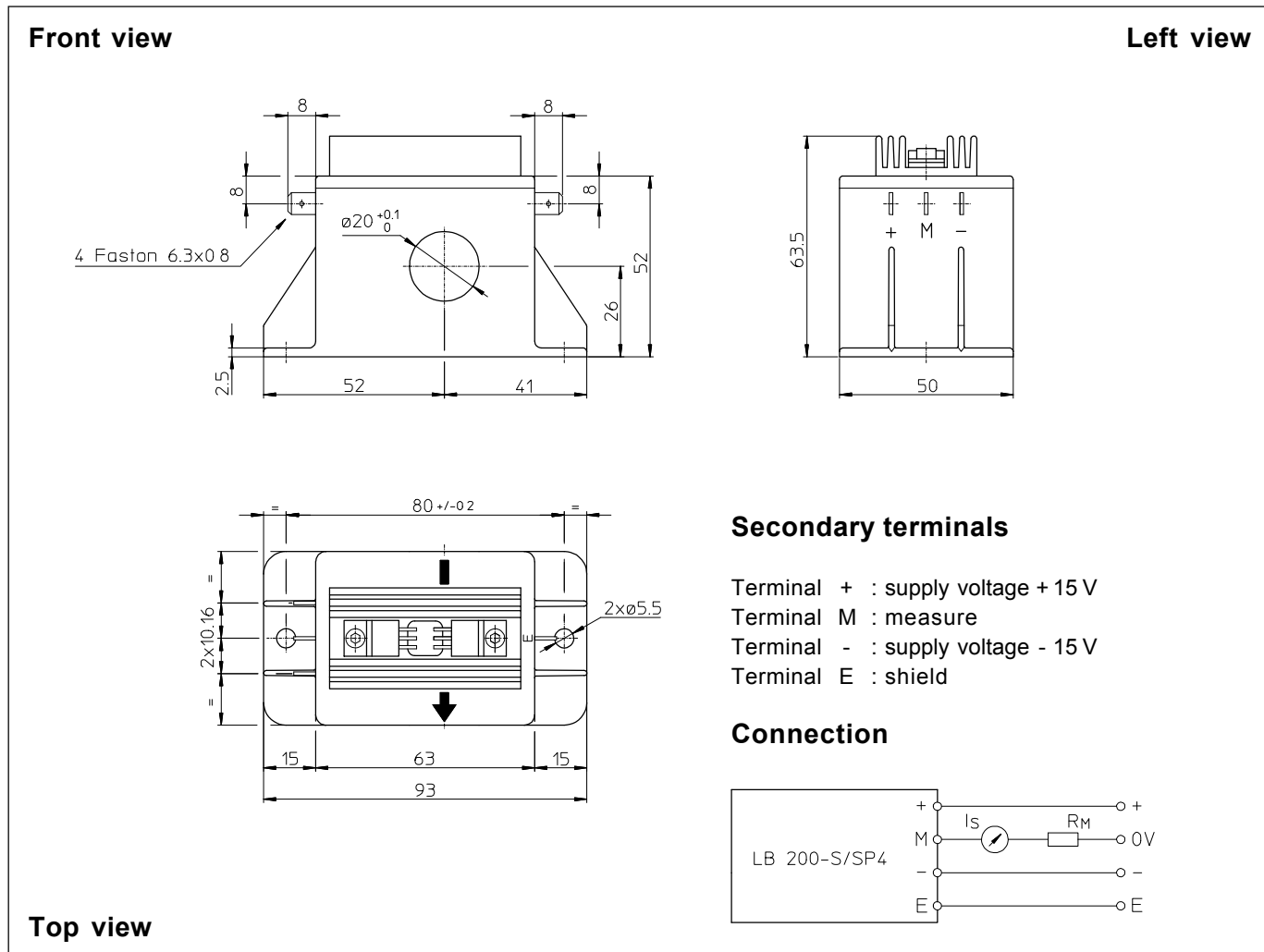
- **Better frequency response**
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

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.

990716/7

Dimensions LB 200-S/SP4 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.2 mm
- Fastening 2 holes $\varnothing 5.5$ mm
- Primary through-hole $\varnothing 20$ 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.