Current Transducer LB 200-S/SP4

I_{PN} = 200 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		$R_{M\,min}$	$R_{M\,max}$	
	with ± 15 V	@ ± 200 A_{max}	5	33	Ω
		@ ± 300 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 (± 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°C		± 0.5		%
ε_L	Linearity		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.50	mA
I_{OT}	Thermal drift of I_O	+ 20°C .. + 50°C		± 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 @ ± I_{PN}		< 0.01		mA
	Crossing distortion		negligeable		
	Matching specification	+ 20°C .. + 50°C	≤ 0.01		mA

General data

T_A	Ambient operating temperature		+ 20 .. + 50	°C
T_S	Ambient storage temperature		- 25 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 50°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 = ± 15 V (± 5 %)
- K_N = 1 : 1000
- Shield
- Negligeable zero crossing distortion
- Low noise electronics
- T_A = + 20°C .. + 50°C
- Low I_{OT}
- Transducers matched based on thermal drift to within $T_A \leq 0.01$ 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.

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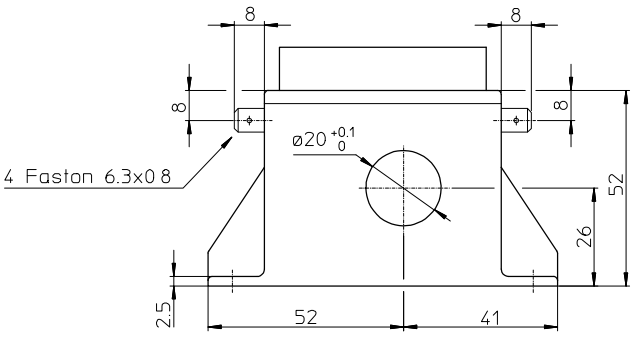
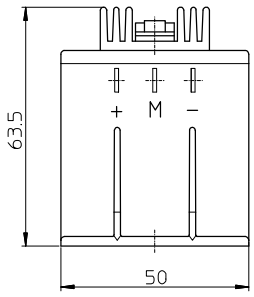
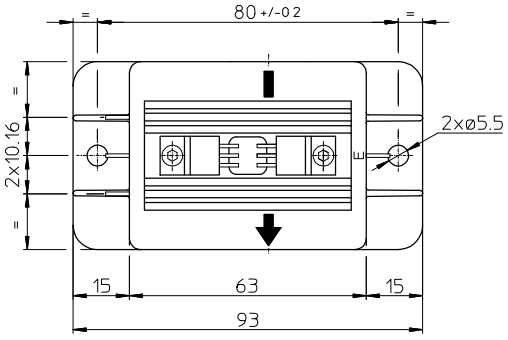
Dimensions LB 200-S/SP4 (in mm. 1 mm = 0.0394 inch)

Front view



Left view



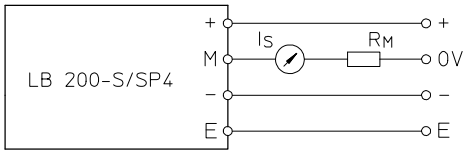


Top view

Secondary terminals

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

Connection



Mechanical characteristics

• General tolerance	± 0.2 mm
• Fastening	2 holes ∅ 5.5 mm
• Primary through-hole	∅ 20 mm
• Connection of secondary	Faston 6.3 x 0.8 mm

Remarks

- $\mathbf{I}_S$ is positive when $\mathbf{I}_P$ 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.