

# 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 .. $\pm 300$	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	$\Omega$
$I_{SN}$	Secondary nominal r.m.s. current	200	mA		
$K_N$	Conversion ratio	1 : 1000			
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 15$	V		
$I_C$	Current consumption	$20 + I_S$	mA		
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6 <sup>1)</sup>	kV		
		1 <sup>2)</sup>	kV		

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.5$	%
$e_L$	Linearity	$< 0.1$	%
$I_o$	Offset current @ $I_p = 0, T_A = 25^\circ\text{C}$	Typ	$\pm 0.50$ mA
		Max	$\pm 0.08$ mA
$I_{OT}$	Thermal drift of $I_o$ + $20^\circ\text{C} \dots + 50^\circ\text{C}$		mA
$t_r$	Response time <sup>3)</sup> @ 90 % of $I_{PN}$	$< 1$	$\mu\text{s}$
$di/dt$	di/dt accurately followed	$> 50$	A/ $\mu\text{s}$
$f$	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 + $20^\circ\text{C} \dots + 50^\circ\text{C}$	$\leq 0.01$	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	$\Omega$
$m$	Mass	200	g
	Standards <sup>4)</sup>	EN 50178	

Notes : 1) Between primary and secondary + shield.

2) Between secondary and shield.

3) With a di/dt of 100 A/ $\mu\text{s}$

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

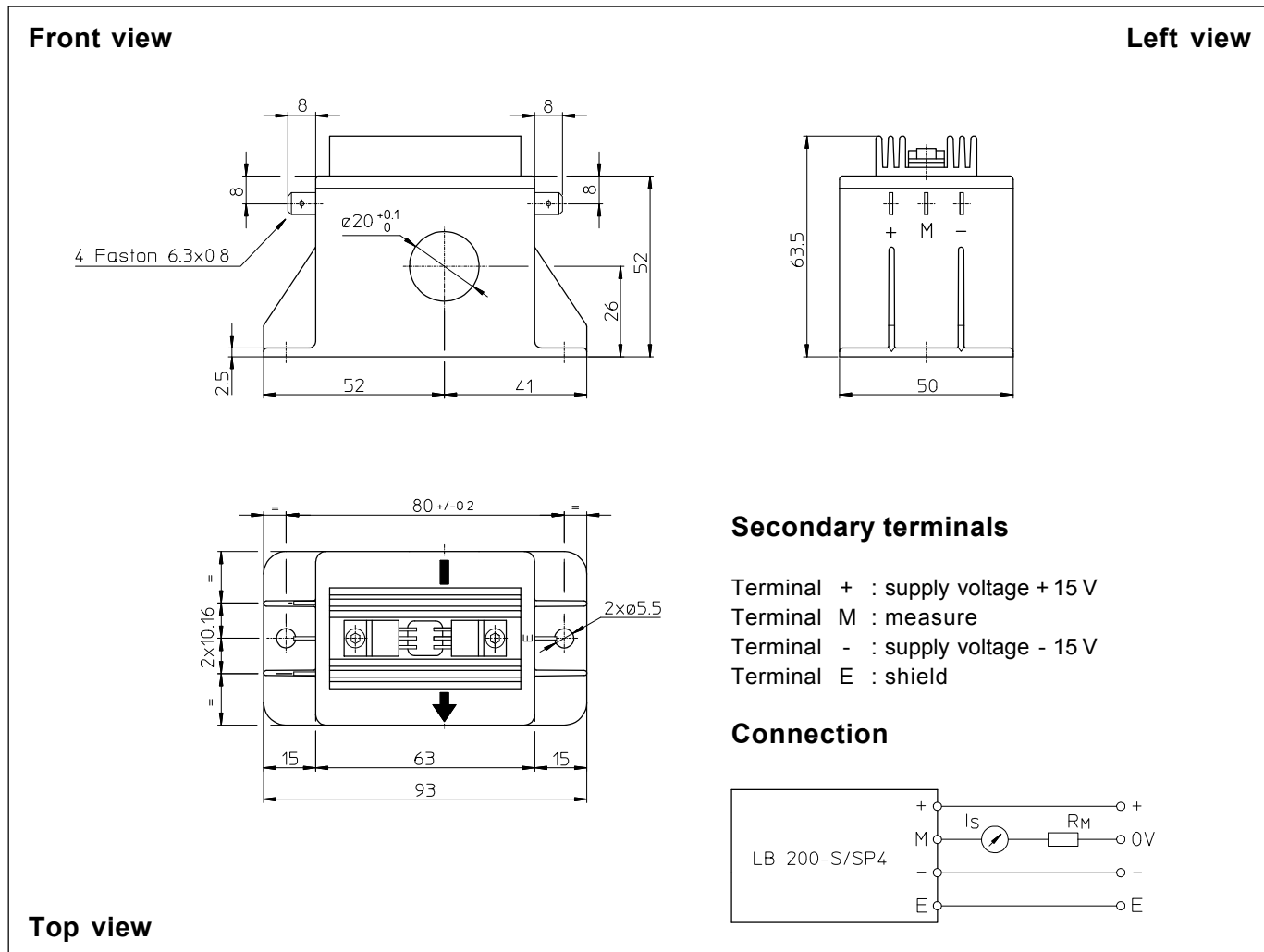
- **Better frequency response**
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

## 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.

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



### Mechanical characteristics

- General tolerance  $\pm 0.2$  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.