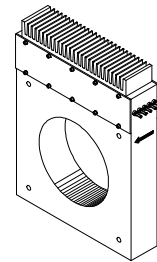


# Current Transducer LT 10000-S

$I_{PN} = 10000 \text{ A}$

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	10000	A
$I_P$	Primary current, measuring range (1 s/mn)	0 .. $\pm 15000$	A
$R_M$	Measuring resistance	$R_{Mmin}$ $R_{Mmax}$	
	with $\pm 48 \text{ V}$	@ $\pm 10000 \text{ A}_{max}$	0    8 $\Omega$
		@ $\pm 12000 \text{ A}_{max}$	0    1 $\Omega$
	with $\pm 60 \text{ V}$	@ $\pm 10000 \text{ A}_{max}$	0    20 $\Omega$
		@ $\pm 15000 \text{ A}_{max}$	0    1.5 $\Omega$
$I_{SN}$	Secondary nominal r.m.s. current	1	A
$K_N$	Conversion ratio	1 : 10000	
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 48 \dots 60$	V
$I_C$	Current consumption	$40 (@ \pm 60 \text{ V}) + I_S$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	10 <sup>1)</sup>	kV
		1 <sup>2)</sup>	kV

## Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated case.

## 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.

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.3$	%
$e_L$	Linearity	$< 0.1$	%
$I_O$	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	$\pm 1.5$ mA
		Max	$\pm 1.5$ mA
$I_{OT}$	Thermal drift of $I_O$ - $25^\circ\text{C} \dots + 70^\circ\text{C}$	$\pm 0.6$	mA
$t_r$	Response time <sup>3)</sup> @ 90 % of $I_{Pmax}$	$< 1$	$\mu\text{s}$
$di/dt$	di/dt accurately followed	$> 50$	A/ $\mu\text{s}$
$f$	Frequency bandwidth (-1 dB)	DC .. 100	kHz

## 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.

## General data

$T_A$	Ambient operating temperature	- 25 .. + 70	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 40 .. + 85	$^\circ\text{C}$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	35	$\Omega$
$m$	Mass	17	kg
	Standards <sup>4)</sup>	EN 50178	

Notes : <sup>1)</sup> Between primary and secondary + shield

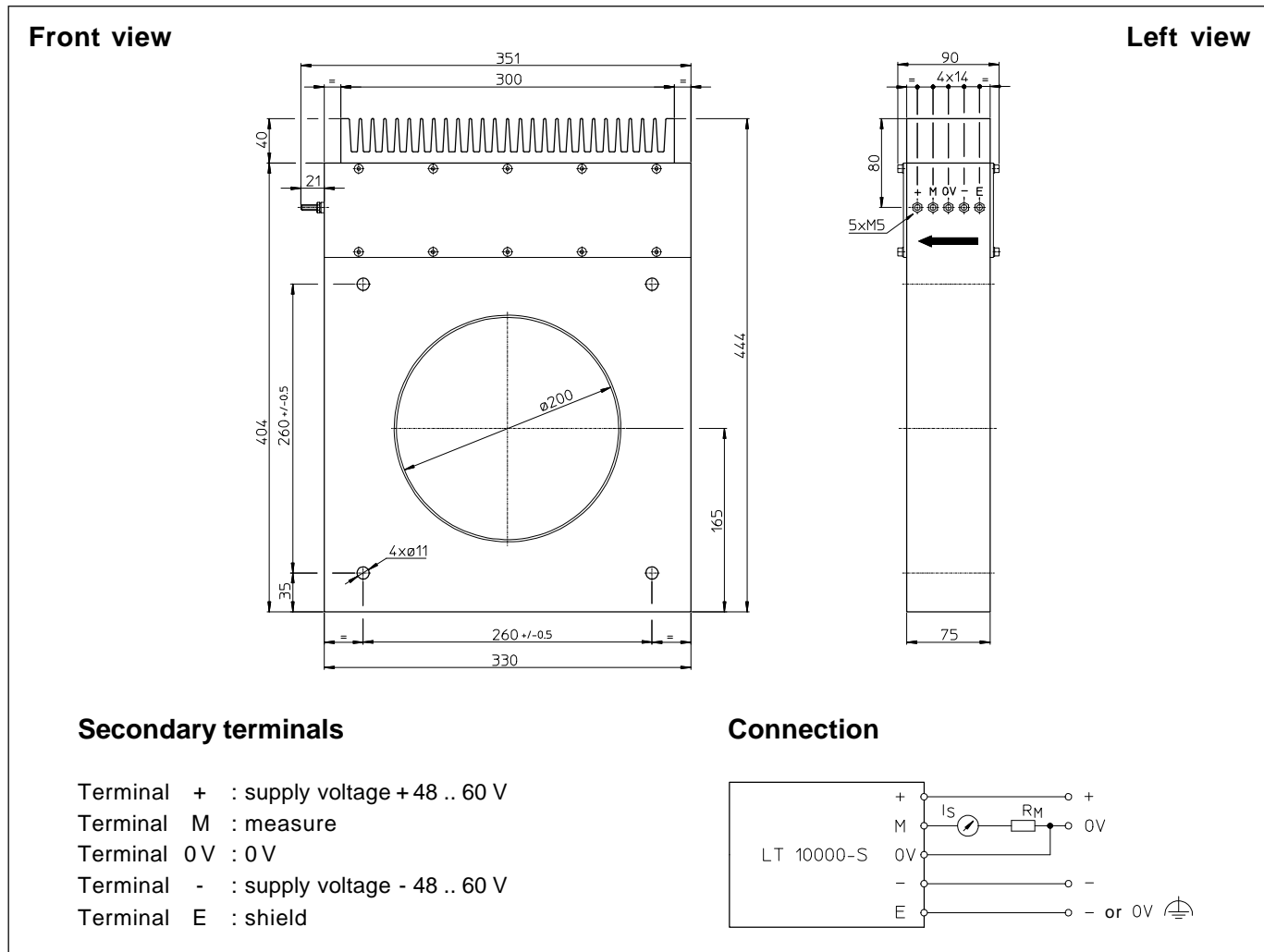
<sup>2)</sup> Between secondary and shield

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

<sup>4)</sup> A list of corresponding tests is available

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## Dimensions LT 10000-S (in mm. 1 mm = 0.0394 inch)



## Mechanical characteristics

- |                           |                        |
|---------------------------|------------------------|
| • General tolerance       | ± 1 mm                 |
| • Fastening               | 4 holes Ø 11 mm        |
| • Primary through-hole    | Ø 200 mm               |
| • Connection of secondary | M5 threaded studs      |
| Fastening torque          | 2.2 Nm or 1.62 Lb - Ft |

## Remarks

- $I_s$  is positive when  $I_p$  flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a primary bar in the center of the through-hole.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.