

# Current Transducer LT 1005-T/SP3

$$I_{PN} = 1000 \text{ A}$$

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).



16149

## Electrical data

$I_{PN}$	Primary nominal r.m.s. current	1000	A
$I_P$	Primary current, measuring range	0 .. $\pm 1800$	A
$R_M$	Measuring resistance	$R_{M \min}$	$R_{M \max}$
	with $\pm 15 \text{ V}$	0	22 $\Omega$
	@ $\pm 1000 \text{ A}_{\max}$ @ $\pm 1800 \text{ A}_{\max}$	0	5 $\Omega$
$I_{SN}$	Secondary nominal r.m.s. current	333	mA
$K_N$	Conversion ratio	1 : 3000	
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 15$	V
$I_C$	Current consumption	$25 + I_S$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6 <sup>1)</sup>	kV
$V_b$	R.m.s. rated voltage <sup>2)</sup> , safe separation	1750	V
		3500	V
	basic isolation	3500	V

## Features

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

## Special features

- $I_P = 0 .. 1800 \text{ A}$
- $K_N = 1 : 3000$
- $V_C = \pm 15 (\pm 5 \%) \text{ V}$
- $T_A = -25^\circ\text{C} .. +70^\circ\text{C}$
- Connection to secondary circuit on M4 threaded studs
- Potted
- Railway equipment.

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.4$	%
$\epsilon_L$	Linearity error	$< 0.1$	%
$I_O$	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max
			$\pm 0.7$ mA
$I_{OT}$	Thermal drift of $I_O$ - $25^\circ\text{C} .. +70^\circ\text{C}$	$\pm 0.3$	$\pm 0.7$ 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

## 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.

## 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 @ $T_A = 70^\circ\text{C}$	17	$\Omega$
m	Mass	1.1	kg
	Standards	EN 50155: 1995	

## Applications

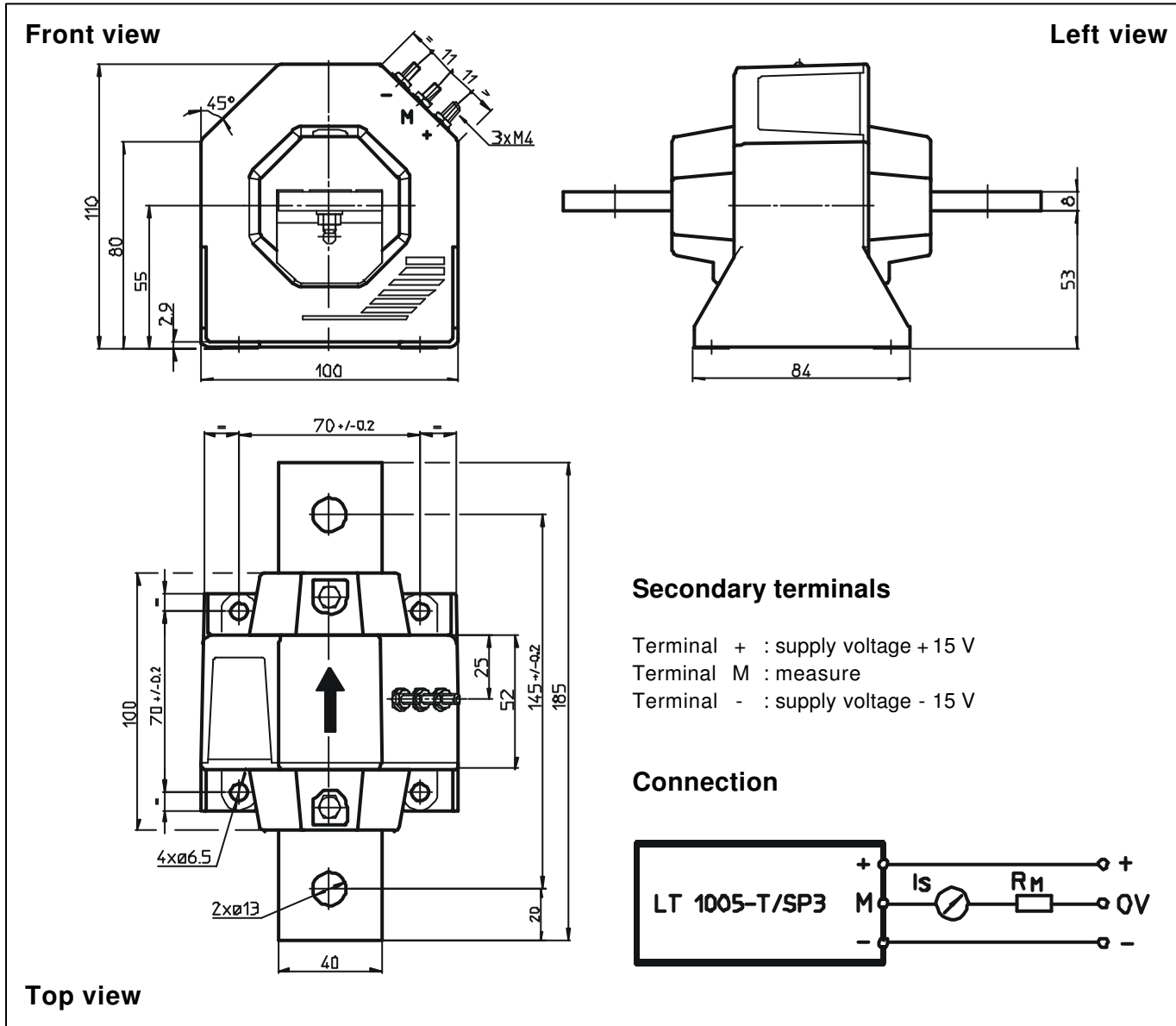
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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

<sup>2)</sup> Pollution class 2. With a non insulated primary bar which fills the through-hole.

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

## Dimensions LT 1005-T/SP3 (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Transducer fastening 4 holes  $\varnothing 6.5$  mm  
4 M6 steel screws  
Recommended fastening torque 5 Nm or 3.7 Lb. - Ft.  
Or
- Connection of the primary 2 holes  $\varnothing 13$  mm
- Connection of secondary M4 threaded studs  
Recommended fastening torque 1.2 Nm or .88 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.