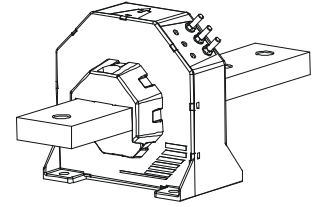


## Current Transducer LT 2005-T/SP2

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).

$$I_{PN} = 2000 \text{ A}$$



### Electrical data

$I_{PN}$	Primary nominal current rms	2000	A			
$I_{PM}$	Primary current, measuring range @ $\pm 24 \text{ V}$	$0 \dots \pm 3000$	A			
$R_M$	Measuring resistance	with $\pm 15 \text{ V}$	@ $\pm 2000 \text{ A}_{\text{maxi}}$	$R_{M\text{mini}}$	$R_{M\text{maxi}}$	
			@ $\pm 2500 \text{ A}_{\text{maxi}}$	0	9	$\Omega$
		with $\pm 24 \text{ V}$	@ $\pm 2000 \text{ A}_{\text{maxi}}$	0	4	$\Omega$
			@ $\pm 3000 \text{ A}_{\text{maxi}}$	5	26	$\Omega$
$I_{SN}$	Secondary nominal current rms	500	mA			
$K_N$	Conversion ratio	1 : 4000				
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 15 \dots 24$	V			
$I_C$	Current consumption ( $\pm 1$ )	$28 (@ \pm 24\text{V}) + I_s$	mA			

### Accuracy - Dynamic performance data

$X$	Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.4$	%
$e_L$	Linearity error	$< 0.1$	%
$I_O$	Offset current @ $I_p = 0, T_A = 25^\circ\text{C}$	Typ	Maxi
$I_{OM}$	Magnetic offset current @ $I_p = 0$ and specified $R_M$ , after an overload of $3 \times I_{PN}$		$\pm 1.00 \text{ mA}$
$I_{OT}$	Temperature variation of $I_O$	- $40^\circ\text{C} \dots -25^\circ\text{C}$	$\pm 0.40 \text{ mA}$
		- $25^\circ\text{C} \dots +70^\circ\text{C}$	$\pm 0.80 \text{ mA}$
$t_r$	Response time <sup>1)</sup> to 90 % of $I_{PN}$ step	$< 1$	$\mu\text{s}$
$di/dt$	$di/dt$ accurately followed	$> 50$	A/ $\mu\text{s}$
<b>BW</b>	Frequency bandwidth (- 1 dB)	DC .. 100	kHz

### General data

$T_A$	Ambient operating temperature	- 40 .. + 70	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 45 .. + 85	$^\circ\text{C}$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	17	$\Omega$
$m$	Mass	5.5	kg
	Standards	EN 50155: 1995	

### Features

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

### Special features

- $K_N = 1 : 4000$
- $V_d = 12 \text{ kV}$
- $T_A = -40^\circ\text{C} \dots +70^\circ\text{C}$
- Special primary bar.

### 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.

### Applications

- Single or three phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

### Application domain

- Traction.

Note: <sup>1)</sup> With a  $di/dt$  of 100 A/ $\mu\text{s}$ .

## Current Transducer LT 2005-T/SP2

### Isolation characteristics

<b>V<sub>d</sub></b>	Rms voltage for AC isolation test, 50 Hz, 1 min	12	kV
		Mini	
<b>dCp</b>	Creepage distance	89	mm
<b>dCl</b>	Clearance distance	73	mm
<b>CTI</b>	Comparative Tracking Index (Group IIIa)	225	

### Safety



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



Caution, risk of electrical shock

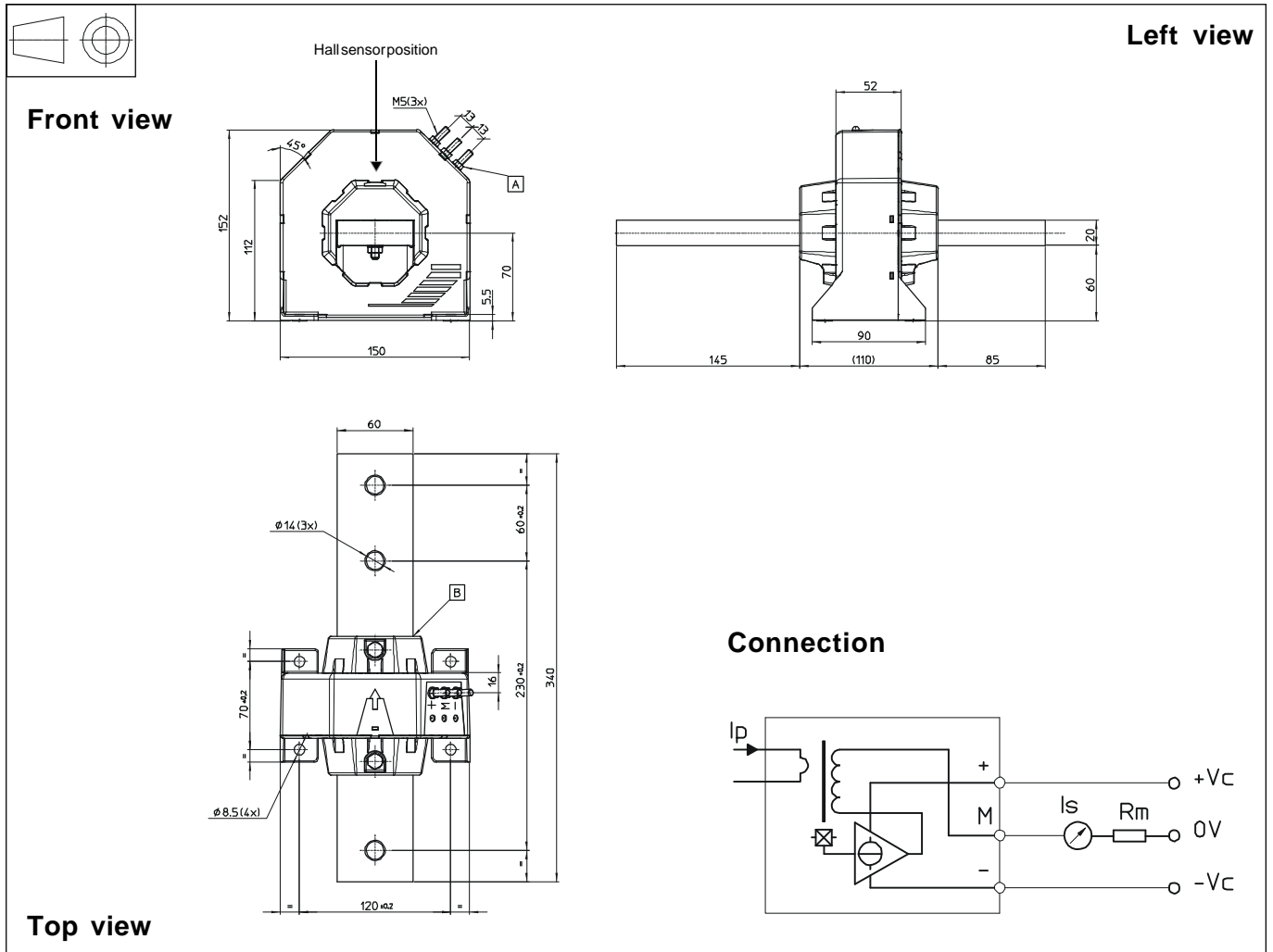
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).

Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

**Dimensions LT 2005-T/SP2 (in mm. 1 mm = 0.0394 inch)**

**Mechanical characteristics**

- General tolerance  $\pm 0.5$  mm
- Transducer fastening
  - 4 holes  $\varnothing 8.5$  mm
  - 4 M8 steel screws
  - Recommended fastening torque 10 Nm or 7.38 Lb - Ft
  - or by the primary bar
- Connection of primary
  - 3 holes  $\varnothing 14$  mm
  - 3 M12 steel screws
  - Recommended fastening torque 24.50 Nm or 18.15 Lb - Ft
- Connection of secondary
  - M5 threaded studs
  - Recommended 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.