

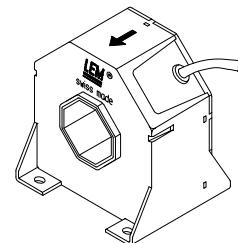
# Current Transducer LT 505-S/SP5

$I_{PN} = 720 \text{ A}$

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).



16093



## Electrical data

$I_{PN}$	Primary nominal r.m.s. current	720	A
$I_p$	Primary current, measuring range	0 .. $\pm 1400$	A
$R_M$	Measuring resistance	$R_{M\min}$	$R_{M\max}$
	with $\pm 24 \text{ V}$	10	90
	$@ \pm 720 \text{ A}_{\max}$	10	23
	$@ \pm 1400 \text{ A}_{\max}$		
$I_{SN}$	Secondary nominal r.m.s. current	144	mA
$K_N$	Conversion ratio	1 : 5000	
$V_c$	Supply voltage ( $\pm 5 \%$ )	$\pm 24$	V
$I_c$	Current consumption	$30 + I_s$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV
$V_b$	R.m.s. rated voltage <sup>1)</sup> , basic isolation	3500	V

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$	$\pm 0.5$	%
$e_L$	Linearity error	$< 0.1$	%
$I_o$	Offset current @ $I_p = 0$ , $T_A = 25^\circ\text{C}$	Typ	Max
$I_{OT}$	Thermal drift of $I_o$	$\pm 0.2$	$\pm 0.4$
		- $25^\circ\text{C} \dots + 70^\circ\text{C}$	mA
		$- 40^\circ\text{C} \dots + 80^\circ\text{C}$	mA
$t_r$	Response time <sup>2)</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

## General data

$T_A$	Ambient operating temperature	- 40 .. + 80	$^\circ\text{C}$
$T_s$	Ambient storage temperature	- 50 .. + 85	$^\circ\text{C}$
$R_s$	Secondary coil resistance @ $T_A = 80^\circ\text{C}$	52	$\Omega$
$m$	Mass	600	g
	Standards	EN 50155 : 1995	

Notes : <sup>1)</sup> Pollution class 2. With a non insulated primary bar which fills the through-hole

<sup>2)</sup> With a di/dt of 100 A/ $\mu\text{s}$ .

## Features

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

## Special features

- $I_{PN} = 720 \text{ A}$
- $I_p = 0 .. \pm 1400 \text{ A}$
- $V_c = \pm 24 (\pm 5 \%) \text{ V}$
- $T_A = - 40^\circ\text{C} \dots + 80^\circ\text{C}$
- Connection to secondary circuit on cable-Thermoflex SIR/XY 3 x 0.5 mm<sup>2</sup>
- Railway equipment.

## Advantages

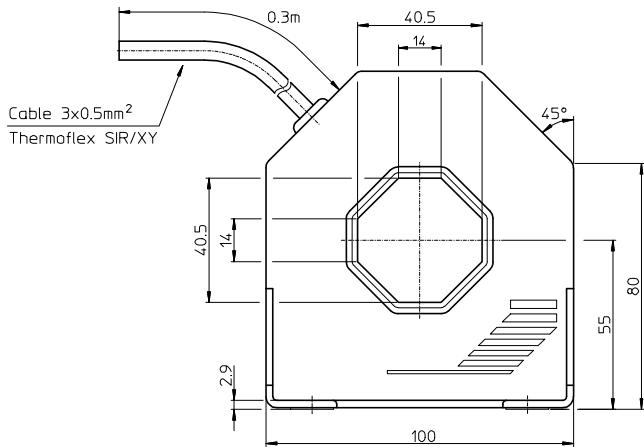
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

## Applications

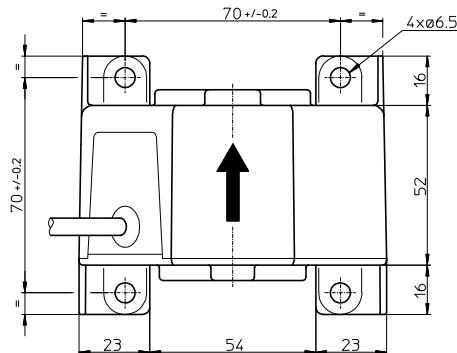
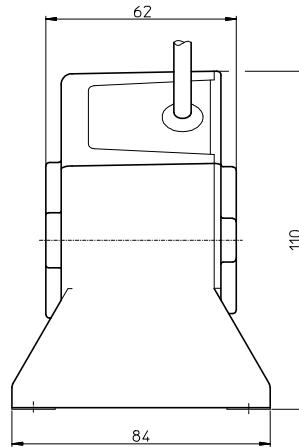
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

## Dimensions LT 505-S/SP5 (in mm. 1 mm = 0.0394 inch)

### Front view



### Left view

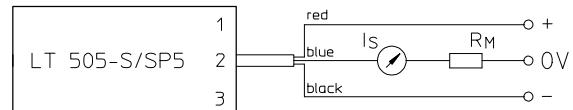


### Top view

### Secondary terminals

Wire red : supply voltage + 24 V  
 Wire blue : measure  
 Wire black : supply voltage - 24 V

### Connection



### Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Fastening 4 holes  $\varnothing 6.5$  mm
- Primary through-hole 40.5 x 40.5 mm
- Connection of secondary cable-Thermoflex SIR/XY 3 x 0.5 mm<sup>2</sup>

### 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 single bar completely filling the primary hole.



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