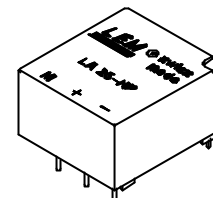


# Current Transducer LA 25-NP/SP13

$$I_{PN} = 0.5 \text{ A}$$

For the electronic measurement of currents : DC, AC, pulsed, mixed, 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	0.5	A
$I_P$	Primary current, measuring range	$0 \dots \pm 0.72$	A
$R_M$	Measuring resistance	$R_{M \min}$ $R_{M \max}$	
	with $\pm 15 \text{ V}$		
	@ $\pm 0.50 \text{ A}_{\max}$	100    320	$\Omega$
	@ $\pm 0.72 \text{ A}_{\max}$	100    190	$\Omega$
$I_{SN}$	Secondary nominal r.m.s. current	25	mA
$K_N$	Conversion ratio	50 : 1000	
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 15$	V
$I_C$	Current consumption	$10 + I_s$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	2.5	kV
$V_b$	R.m.s. rated voltage <sup>1)</sup> , safe separation	600	V
	basic isolation	1700	V

## Features

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

## Special features

- $I_{PN} = 0.5 \text{ A}$
- $I_P = 0 \dots \pm 0.72 \text{ A}$
- $K_N = 50 : 1000$
- $T_A = -40^\circ\text{C} \dots +70^\circ\text{C}$
- Railway equipment.

## Accuracy - Dynamic performance data

$X$	Typical accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.5$	%
$e_L$	Linearity	$< 0.2$	%
$I_O$	Offset current <sup>2)</sup> @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max
		$\pm 0.05$	$\pm 0.15$
$I_{OM}$	Residual current <sup>3)</sup> @ $I_P = 0$ , after an overload of $3 \times I_{PN}$	$\pm 0.05$	$\pm 0.15$
$I_{OT}$	Thermal drift of $I_O$	$0^\circ\text{C} \dots +70^\circ\text{C}$	$\pm 0.20$ $\pm 0.60$
		$-25^\circ\text{C} \dots 0^\circ\text{C}$	$\pm 0.20$ $\pm 0.50$
		$-40^\circ\text{C} \dots -25^\circ\text{C}$	$\pm 0.30$ $\pm 1.00$
$t_r$	Response time <sup>4)</sup> @ 90 % of $I_{PN}$	$< 1$	$\mu\text{s}$
$f$	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	$-40 \dots +70$	$^\circ\text{C}$
$T_S$	Ambient storage temperature	$-45 \dots +85$	$^\circ\text{C}$
$R_P$	Primary coil resistance @ $T_A = 25^\circ\text{C}$	$< 190$	m $\Omega$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	110	$\Omega$
$L_P$	Primary insertion inductance	121	$\mu\text{H}$
$R_{IS}$	Isolation resistance @ 500 V, $T_A = 25^\circ\text{C}$	$> 1500$	M $\Omega$
$m$	Mass	22	g
	Standards <sup>5)</sup>	EN 50155 EN 50178	

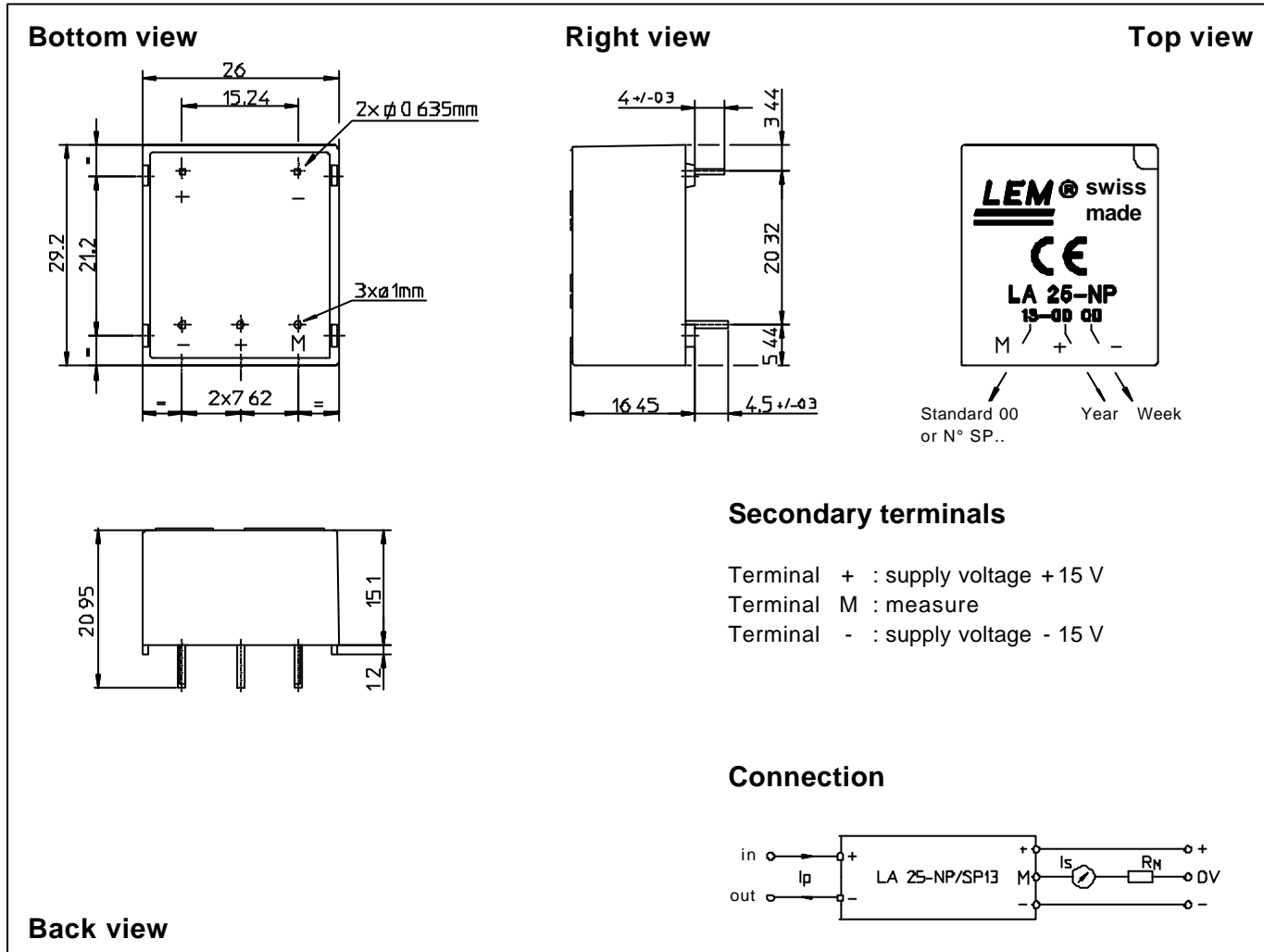
## Applications

- 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> Pollution class 2
  - <sup>2)</sup> Measurement carried out after 15 mn functioning
  - <sup>3)</sup> The result of the coercive field of the magnetic circuit
  - <sup>4)</sup> With a  $di/dt$  of 100 A/ $\mu\text{s}$
  - <sup>5)</sup> A list of corresponding tests is available.

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## Dimensions LA 25-NP/SP13 (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 0.2$  mm
- Fastening & connection of primary 2 pins  
0.635 x 0.635 mm
- Fastening & connection of secondary 3 pins  $\phi 1$  mm
- Recommended PCB hole 1.2 mm

### Remark

- $I_s$  is positive when  $I_p$  flows from terminal + to terminal -.