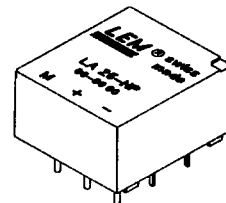


## Multi-Range Current Transducer LA 25-NP

$I_{PN} = 5-6-8-12-25 \text{ A}$

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	25	At
$I_p$	Primary current, measuring range	0 .. $\pm 36$	At
$R_M$	Measuring resistance with $\pm 15 \text{ V}$	$R_{Mmin}$	$R_{Mmax}$
		@ $\pm 25 \text{ At}_{max}$	100 320 $\Omega$
		@ $\pm 36 \text{ At}_{max}$	100 190 $\Omega$
$I_{SN}$	Secondary nominal r.m.s. current	25	mA
$K_N$	Conversion ratio	1-2-3-4-5 : 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 basic isolation	600	V
		1700	V

### Features

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

### 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.

### Accuracy - Dynamic performance data

$X$	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$	$\pm 0.5$	%
$\epsilon_L$	Linearity	$< 0.2$	%
$I_o$	Offset current <sup>2)</sup> @ $I_p = 0$ , $T_A = 25^\circ\text{C}$	Typ	Max
		$\pm 0.05$	$\pm 0.15$ mA
$I_{CM}$	Residual current <sup>3)</sup> @ $I_p = 0$ , after an overload of $3 \times I_{PN}$	$\pm 0.05$	$\pm 0.15$ mA
$I_{OT}$	Thermal drift of $I_o$	0°C .. + 25°C	$\pm 0.06$ $\pm 0.25$ mA
		+ 25°C .. + 70°C	$\pm 0.10$ $\pm 0.35$ mA
$t_r$	Response time <sup>4)</sup> @ 90 % of $I_{pmax}$	$< 1$	$\mu\text{s}$
$di/dt$	$di/dt$ accurately followed	$> 50$	A/ $\mu\text{s}$
$f$	Frequency bandwidth (-1dB)	DC .. 150	kHz

### General data

$T_A$	Ambient operating temperature	0 .. + 70	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 25 .. + 85	$^\circ\text{C}$
$R_p$	Primary resistance per turn @ $T_A = 25^\circ\text{C}$	$< 1.25$	$m\Omega$
$R_s$	Secondary coil resistance @ $T_{Amax}$	110	$\Omega$
$R_{IS}$	Isolation resistance @ 500 V, $T_A = 25^\circ\text{C}$	$> 1500$	$M\Omega$
$m$	Mass	22	g
	Standards <sup>5)</sup>	EN 50178	

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.

980219/8

LEM SA



CASE POSTALE 785  
CH-1212 GRAND-LANCY 1  
GENEVA, SWITZERLAND

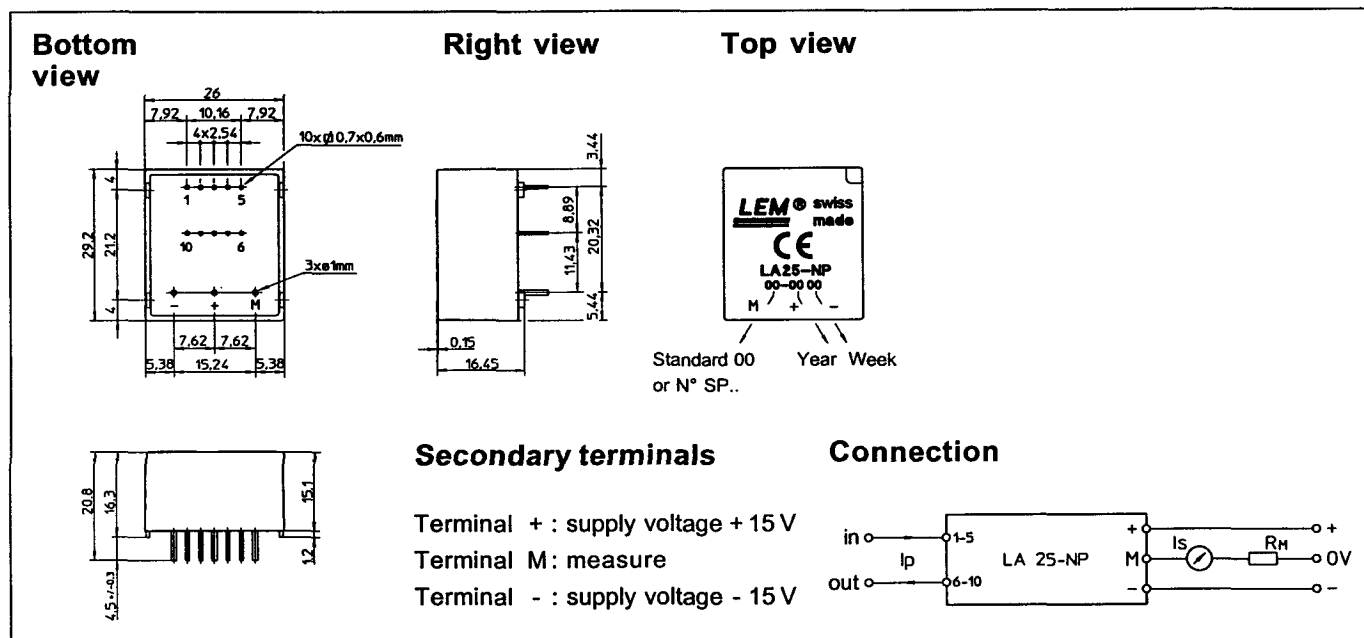


CHEMIN DES AULX 8  
CH-1228 PLAN-LES-OUATES  
GENEVA, SWITZERLAND



TEL: + 41 (0) 22 706 11 11  
FAX: + 41 (0) 22 794 94 78

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



Number of primary turns	Primary current		Nominal output current $I_{SN}$ [mA]	Turns ratio $K_N$	Primary resistance $R_p$ [ $\Omega$ ]	Primary insertion inductance $L_p$ [ $\mu$ H]	Recommended connections
	nominal $I_{PN}$ [A]	maximum $I_p$ [A]					
1	25	36	25	1/1000	0,3	0,023	
2	12	18	24	2/1000	1,1	0,09	
3	8	12	24	3/1000	2,5	0,21	
4	6	9	24	4/1000	4,4	0,37	
5	5	7	25	5/1000	6,3	0,58	

### Mechanical characteristics

- General tolerance  $\pm 0.2$  mm
- Fastening & connection of primary 10 pins 0.7 x 0.6 mm
- Fastening & connection of secondary 3 pins  $\varnothing 1$  mm
- Recommended PCB hole 1.2 mm

### Remarks

- $I_s$  is positive when  $I_p$  flows from terminals 1, 2, 3, 4, 5 to terminals 10, 9, 8, 7, 6
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.