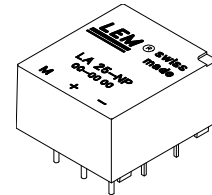


Current Transducer LA 25-NP

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

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	$0 \dots \pm 36$	At
R_M	Measuring resistance with $\pm 15 \text{ V}$	R_{Mmin}	R_{Mmax}
		@ $\pm 25 \text{ At}_{max}$	100 320 Ω
		@ $\pm 36 \text{ At}_{max}$	100 190 Ω
I_{SN}	Secondary nominal r.m.s. current	25	mA
K_N	Conversion ratio	1-2-3-4-5 : 1000	
V_C	Supply voltage ($\pm 5 \%$)	± 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 ¹⁾ , safe separation basic isolation	600	V
		1700	V

Accuracy - Dynamic performance data

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

General data

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

Notes : ¹⁾ Pollution class 2

²⁾ Measurement carried out after 15 mn functioning

³⁾ The result of the coercive field of the magnetic circuit

⁴⁾ With a di/dt of 100 A/ μs

⁵⁾ A list of corresponding tests is available

Features

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

Advantages

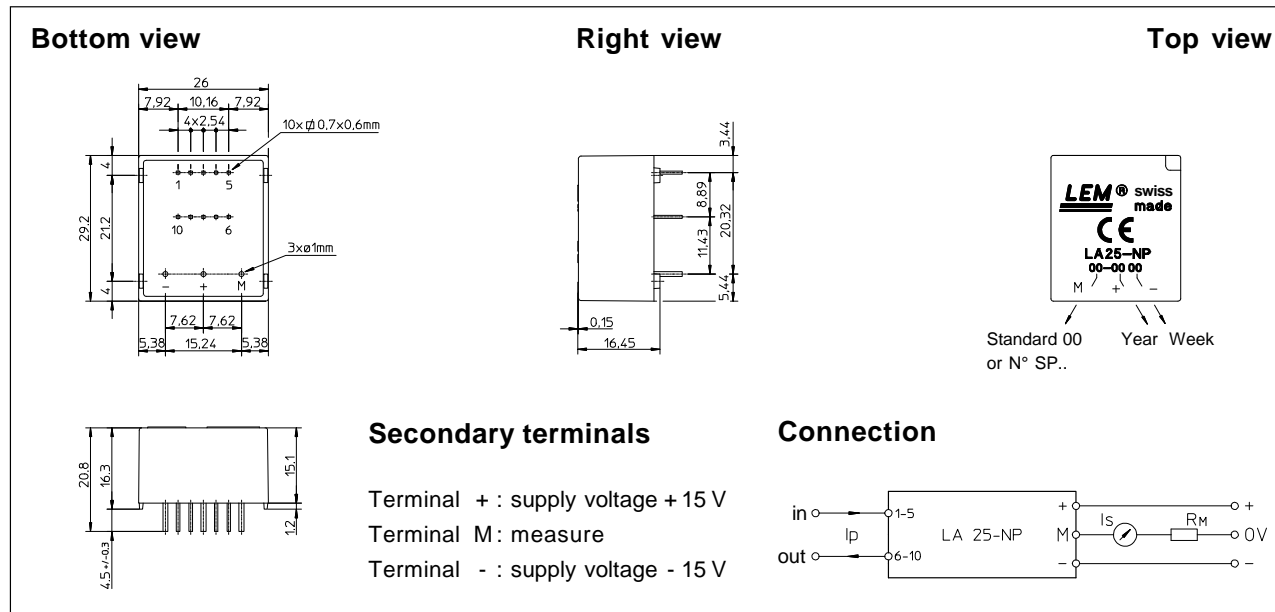
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

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.

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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 [$m\Omega$]	Primary insertion inductance L_P [μH]	Recommended connections
	nominal I_{PN} [A]	maximum I_P [A]					
1	25	36	25	1/1000	0.3	0.023	5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10
2	12	18	24	2/1000	1.1	0.09	5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10
3	8	12	24	3/1000	2.5	0.21	5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10
4	6	9	24	4/1000	4.4	0.37	5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10
5	5	7	25	5/1000	6.3	0.58	5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10

Mechanical characteristics

- General tolerance ± 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.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.