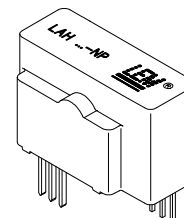


# Current Transducer LAH 25-NP

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

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).



## Electrical data

$I_{PN}$	Primary nominal r.m.s. current	25	At				
$I_P$	Primary current, measuring range <sup>1)</sup>	0 .. 55	At				
$R_M$	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$			
			$R_{Mmin}$	$R_{Mmax}$	$R_{Mmin}$	$R_{Mmax}$	
		with $\pm 12 \text{ V}$	@ $I_{PN} [\pm At_{DC}]$	0	257	0	252
			@ $I_{PN} [At_{RMS}]^2$	0	155	0	150
		with $\pm 15 \text{ V}$	@ $I_{PN} [\pm At_{DC}]$	67	371	70	366
			@ $I_{PN} [At_{RMS}]^2$	67	236	70	231
	@ $I_P < I_{PN}^3$						
$I_{SN}$	Secondary nominal r.m.s. current	25	mA				
$K_N$	Conversion ratio	1 - 2 - 3	: 1000				
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 12 \dots 15$	V				
$I_C$	Current consumption	10 (@ $\pm 15\text{V}$ ) + $I_S$	mA				
$V_d$	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn	5	kV				
$V_b$	R.m.s. rated voltage <sup>4)</sup>	600	V				

## Accuracy - Dynamic performance data

$X$	Accuracy <sup>5)</sup> @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.3$	%
$e_L$	Linearity	$< 0.2$	%
$I_O$	Offset current @ $T_A = 25^\circ\text{C}$	Typ	$\pm 0.15$ mA
		Max	$\pm 0.25$ mA
$I_{OM}$	Residual current @ $I_P = 0$ , after an overload of $5 \times I_{PN}$	$\pm 0.10$	$\pm 0.60$ mA
$I_{OT}$	Thermal drift of $I_O$	0°C .. + 70°C	$\pm 0.10$ mA
		- 25°C .. + 85°C	$\pm 0.10$ mA
$t_{ra}$	Reaction time @ 10 % of $I_{PN}$	$< 200$	ns
$t_r$	Response time <sup>6)</sup> @ 90 % of $I_{PN}$	$< 500$	ns
$di/dt$	di/dt accurately followed	$> 200$	A/ $\mu\text{s}$
$f$	Frequency bandwidth (- 1 dB)	DC .. 200	kHz

## General data

$T_A$	Ambient operating temperature	- 25 .. + 85	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 40 .. + 90	$^\circ\text{C}$
$R_S$	Secondary coil resistance	@ $T_A = 70^\circ\text{C}$	99 $\Omega$
		@ $T_A = 85^\circ\text{C}$	104 $\Omega$
$m$	Mass Standards <sup>7)</sup>		20 g
			EN 50178

Notes : **1)** During 10 s, with  $R_M \leq 109 \Omega$  ( $V_C = \pm 15 \text{ V}$ ) - **2)** 50 Hz Sinusoidal - **3)** The measuring resistance  $R_{Mmin}$  may be lower (see "LAH Technical Information" leaflet) - **4)** Pollution class 2, cat. III - **5)** Without  $I_O$  &  $I_{OM}$  - **6)** With a di/dt of 100 A/ $\mu\text{s}$  - **7)** A list of corresponding tests is available.

## Features

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

## Advantages

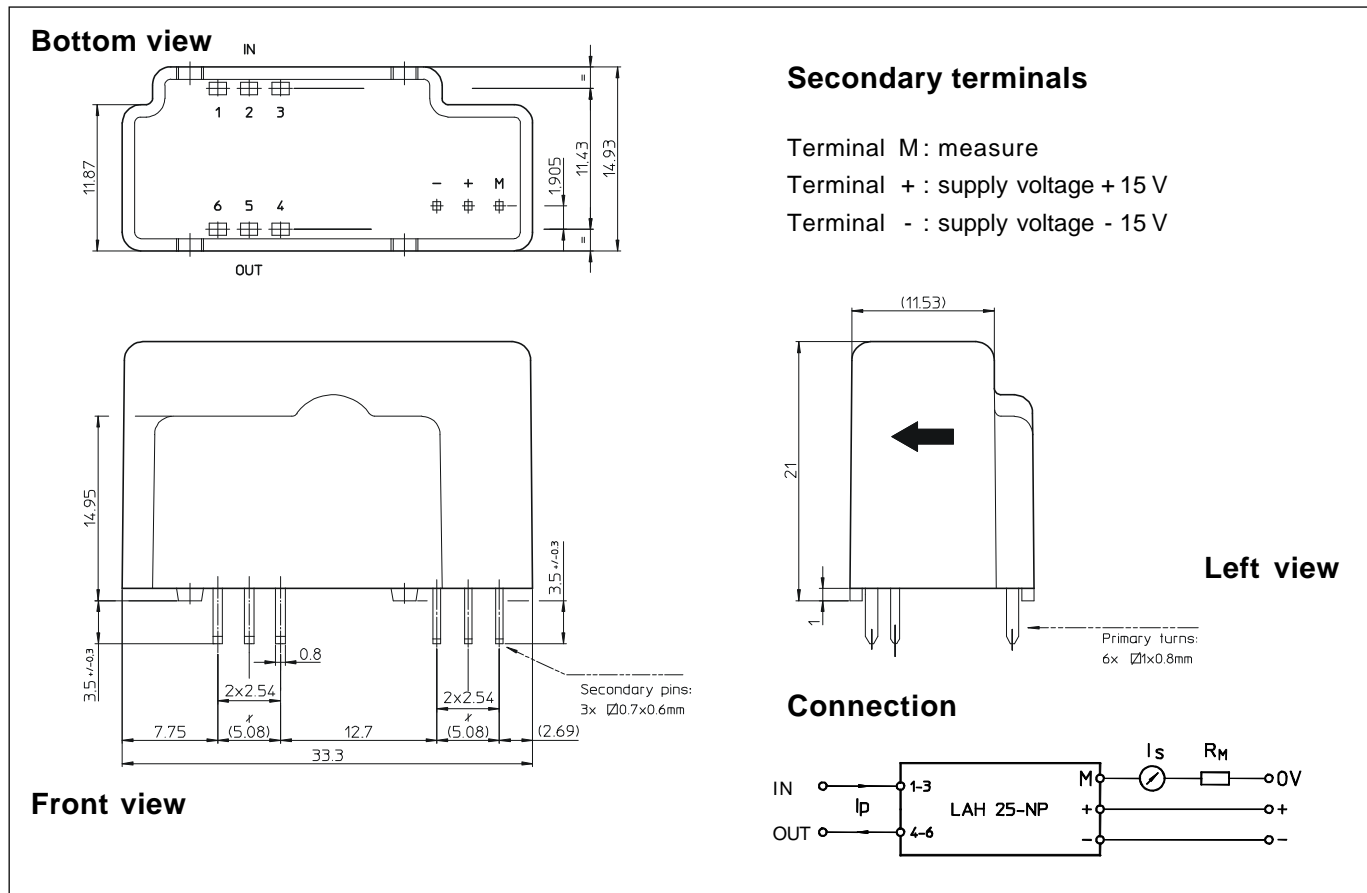
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

## 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 LAH 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 $R_p$ [mΩ]	Primary insertion inductance $L_p$ [μH]	Recommended PCB connections
	nominal $I_{PN}$ [A]	maximum $I_p$ [A]					
1	25	55	25	1 : 1000	0.18	0.012	3 2 1 IN  OUT 4 5 6
2	12	27	24	2 : 1000	0.81	0.054	3 2 1 IN  OUT 4 5 6
3	8	18	24	3 : 1000	1.62	0.110	3 2 1 IN  OUT 4 5 6

### Mechanical characteristics

- General tolerance  $\pm 0.2$  mm
- Fastening & connection of primary  
Recommended PCB hole 1.5 mm
- Fastening & connection of secondary  
Recommended PCB hole 1.2 mm

### Remarks

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