

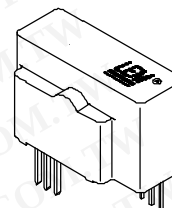
Current Transducer LAH 25-NP

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

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).



16038



Electrical data

I_{PN}	Primary nominal r.m.s. current	25	At																																				
I_P	Primary current, measuring range ¹⁾	0 .. 55	At																																				
R_M	Measuring resistance @	<table> <tr> <th colspan="2">$T_A = 70^\circ\text{C}$</th><th colspan="2">$T_A = 85^\circ\text{C}$</th></tr> <tr> <th>R_{Mmin}</th><th>R_{Mmax}</th><th>R_{Mmin}</th><th>R_{Mmax}</th></tr> <tr> <td colspan="4">with $\pm 12 \text{ V}$</td></tr> <tr> <td>@ $I_{PN} [\pm At_{DC}]$</td><td>0 257</td><td>0 252</td><td>Ω</td></tr> <tr> <td>@ $I_{PN} [At_{RMS}]^{2)}$</td><td>0 155</td><td>0 150</td><td>Ω</td></tr> <tr> <td colspan="4">with $\pm 15 \text{ V}$</td></tr> <tr> <td>@ $I_{PN} [\pm At_{DC}]$</td><td>67 371</td><td>70 366</td><td>Ω</td></tr> <tr> <td>@ $I_{PN} [At_{RMS}]^{2)}$</td><td>67 236</td><td>70 231</td><td>Ω</td></tr> <tr> <td>@ $I_P < I_{PN}^{3)}$</td><td></td><td></td><td></td></tr> </table>		$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$		R_{Mmin}	R_{Mmax}	R_{Mmin}	R_{Mmax}	with $\pm 12 \text{ V}$				@ $I_{PN} [\pm At_{DC}]$	0 257	0 252	Ω	@ $I_{PN} [At_{RMS}]^{2)}$	0 155	0 150	Ω	with $\pm 15 \text{ V}$				@ $I_{PN} [\pm At_{DC}]$	67 371	70 366	Ω	@ $I_{PN} [At_{RMS}]^{2)}$	67 236	70 231	Ω	@ $I_P < I_{PN}^{3)}$			
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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 ⁴⁾	600	V																																				

Accuracy - Dynamic performance data

X	Accuracy ⁵⁾ @ I _{PN} , T _A = 25°C	± 0.3	%
e _L	Linearity error	< 0.2	%
I _O	Offset current @ T _A = 25°C	Typ	Max
I _{OM}	Residual current @ I _p = 0, after an overload of 5 x I _{PN}	± 0.20	± 0.25 mA
I _{OT}	Thermal drift of I _O	0°C .. + 70°C	± 0.10 ± 0.60 mA
		- 25°C .. + 85°C	± 0.10 ± 0.70 mA
t _{ra}	Reaction time @ 10 % of I _{PN}	< 200	ns
t _r	Response time ⁶⁾ @ 90 % of I _{PN}	< 500	ns
di/dt	di/dt accurately followed	> 200	A/μs
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 Ω
		@ $T_A = 85^\circ\text{C}$	104 Ω
m	Mass	20	g
	Standards	EN 50178 : 1997	

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/ μs - 7)

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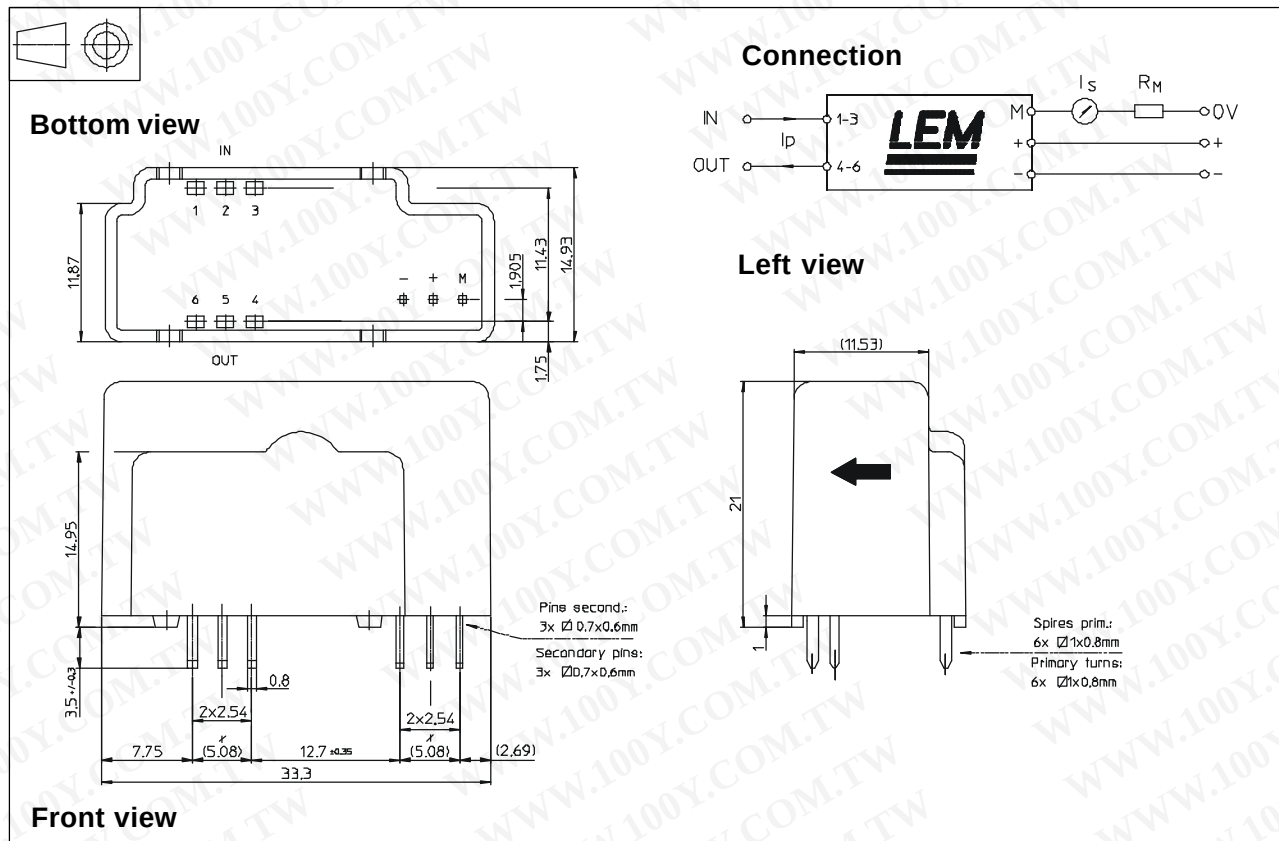
LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.

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[Http://www.100y.com.tw](http://www.100y.com.tw)

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: ± 0.2 mm
- Fastening & connection of primary: 6 pins 1 x 0.8 mm
Recommended PCB hole: 1.5 mm
- Fastening & connection of secondary: 3 pins 0.7 x 0.6 mm
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).
- The jumper temperature and PCB should not exceed 100°C.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

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