

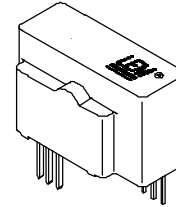
Current Transducer LAH 25-NP

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

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 @	$T_A = 70^\circ C$		$T_A = 85^\circ C$		
		R_{Mmin}	R_{Mmax}	R_{Mmin}	R_{Mmax}	
	with $\pm 12 V$	@ $I_{PN} [\pm At_{DC}]$	0	257	0	252 Ω
		@ $I_{PN} [At_{RMS}]^2$	0	155	0	150 Ω
	with $\pm 15 V$	@ $I_{PN} [\pm At_{DC}]$	67	371	70	366 Ω
		@ $I_{PN} [At_{RMS}]^2$	67	236	70	231 Ω
	@ $I_P < I_{PN}^3$					
I_{SN}	Secondary nominal r.m.s. current	25	mA			
K_N	Conversion ratio	1 - 2 - 3	1000			
V_C	Supply voltage ($\pm 5\%$)	$\pm 12 .. 15$	V			
I_C	Current consumption	10 (@ $\pm 15V$) + 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			

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.

Accuracy - Dynamic performance data

X	Accuracy ⁵⁾ @ I_{PN} , $T_A = 25^\circ C$	± 0.3	%
e_L	Linearity error	< 0.2	%
I_O	Offset current @ $T_A = 25^\circ C$	Typ	Max
			± 0.15 mA
			± 0.25 mA
I_{OM}	Residual current @ $I_P = 0$, after an overload of $5 \times I_{PN}$	± 0.10	± 0.60 mA
I_{OT}	Thermal drift of I_O	0°C .. +70°C	± 0.10 mA
		-25°C .. +85°C	± 0.10 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

Applications

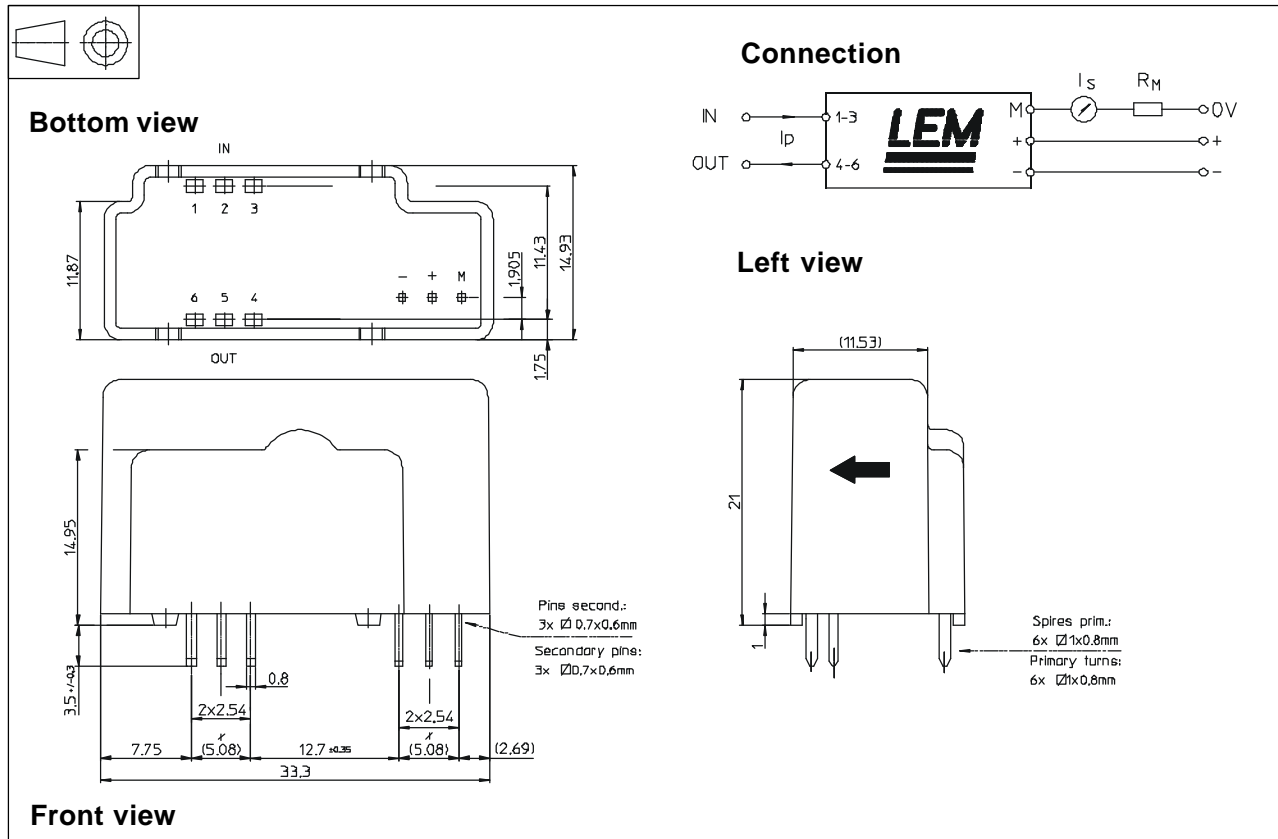
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

General data

T_A	Ambient operating temperature	-25 .. +85	°C
T_S	Ambient storage temperature	-40 .. +90	°C
R_S	Secondary coil resistance	@ $T_A = 70^\circ C$	99 Ω
		@ $T_A = 85^\circ C$	104 Ω
m	Mass	20	g
	Standards	EN 50178 : 1997	

Notes : **1)** During 10 s, with $R_M \leq 109 \Omega$ ($V_C = \pm 15 V$) - **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)**

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 [m Ω]	Primary insertion inductance L_P [μ H]	Recommended PCB connections
	nominal I_{PN} [A]	maximum I_P [A]					
1	25	55	25	1 : 1000	0.18	0.012	
2	12	27	24	2 : 1000	0.81	0.054	
3	8	18	24	3 : 1000	1.62	0.110	

Mechanical characteristics

- General tolerance ± 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).
- 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.