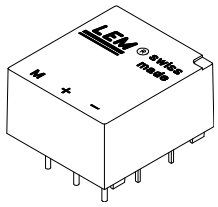
Current Transducer LA 25-NP

I_{PN} = 5-6-8-12-25 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).

16080



Electrical data

I_{PN}	Primary nominal r.m.s. current				25			At
I_P	Primary current, measuring range				0 .. ± 36			At
R_M	Measuring resistance @		T_A = 70°C		T_A = 85°C			
			$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$		
	with ± 15 V	@ ± 25 At $_{max}$	100	320	100	315		Ω
		@ ± 36 At $_{max}$	100	190	100	185		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 (± 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				600			V
	basic isolation				1700			V

Accuracy - Dynamic performance data

X	Typical accuracy @ I_{PN} , T_A = 25°C	± 0.5		%
ε_L	Linearity error	< 0.2		%
		Typ	Max	
I_O	Offset current [2] @ I_P = 0, T_A = 25°C	± 0.05	± 0.15	mA
I_{OM}	Residual current [3] @ I_P = 0, after an overload of 3 x I_{PN}	± 0.05	± 0.15	mA
I_{OT}	Thermal drift of I_O 0°C .. + 25°C	± 0.06	± 0.25	mA
	+ 25°C .. + 70°C	± 0.10	± 0.35	mA
	- 25°C .. + 85°C		± 0.5	mA
	- 40°C .. + 85°C		± 1.2	mA
t_r	Response time [4] @ 90 % of I_{PN}	< 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	- 40 .. + 85		°C
T_S	Ambient storage temperature	- 45 .. + 90		°C
R_P	Primary resistance per turn @ T_A = 25°C	< 1.25		mΩ
R_S	Secondary coil resistance @ T_A = 70°C	110		Ω
	@ T_A = 85°C	115		Ω
R_{IS}	Isolation resistance @ 500 V, T_A = 25°C	> 1500		MΩ
m	Mass	22		g
	Standards	EN 50178 : 1997		

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.

Features

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

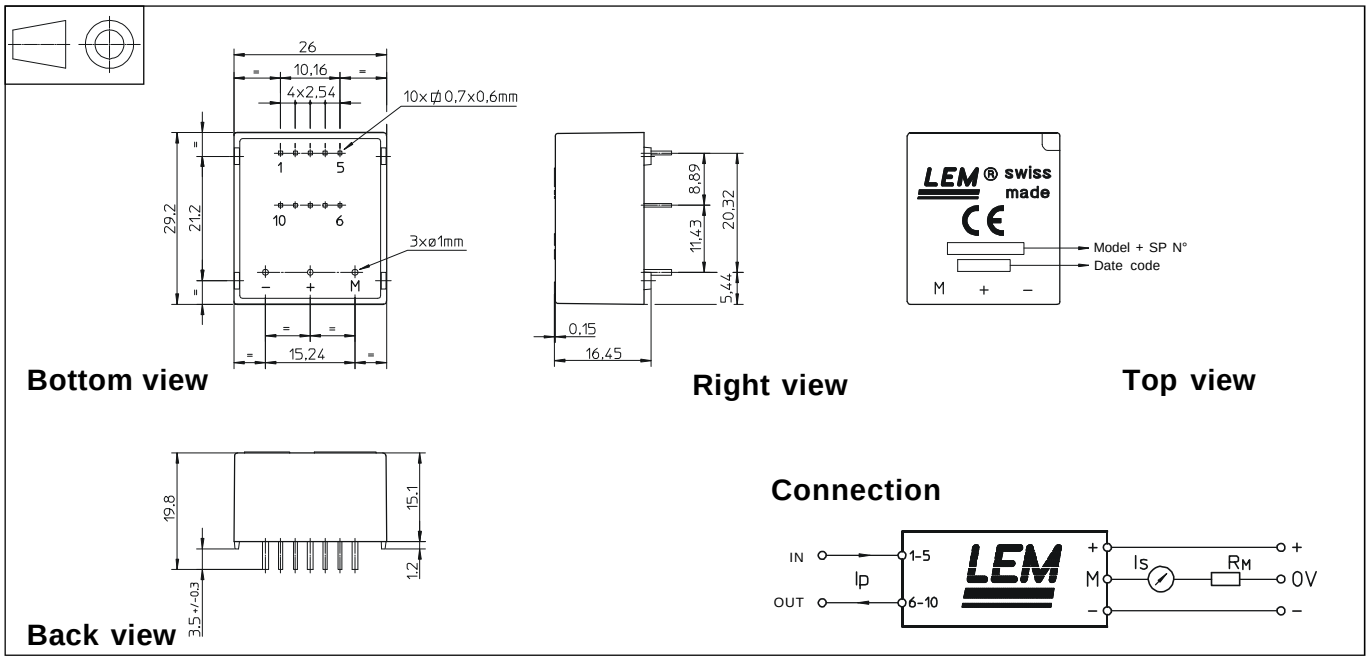
Advantages

- 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.

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



Number of primary turns	Primary current nominal I_{PN} [A]	Primary current maximum I_P [A]	Nominal output current I_{SN} [mA]	Turns ratio K_N	Primary resistance R_P [mΩ]	Primary insertion inductance L_P [µH]	Recommended connections
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 ∅ 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.