Current Transducer LA 25-NP/SP2

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).

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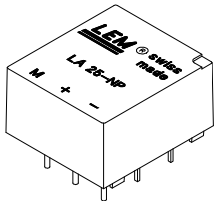

Electrical data

I_{PN}	Primary nominal r.m.s. current		25		At
I_P	Primary current, measuring range		0 .. + 36		At
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with + 15 V	@ + 25 At_{max}	100	270	Ω
		@ + 36 At_{max}	100	170	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 %)		0 .. + 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		< 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
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		0 .. + 70	°C
T_S	Ambient storage temperature		- 25 .. + 85	°C
R_P	Primary resistance per turn @ T_A = 25°C		< 1.25	mΩ
R_S	Secondary coil resistance @ T_A = 70°C		60	Ω
R_{IS}	Isolation resistance @ 500 V, T_A = 25°C		> 1500	MΩ
m	Mass		22	g
	Standards [5]		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
[5] 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.

Special features

- V_C = 0 .. + 15 (± 5 %) V
- R_S = 60 Ω (@ T_A = 70°C)
- Unidirectional measure.

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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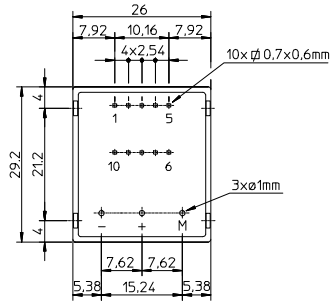
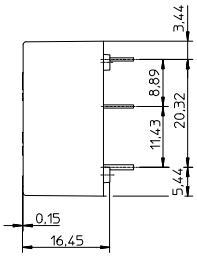
Dimensions LA 25-NP/SP2 (in mm. 1 mm = 0.0394 inch)

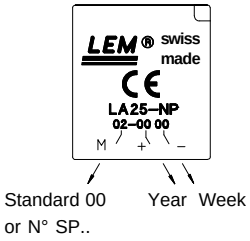
Bottom view

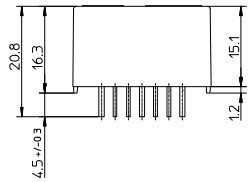


Right view



Top view



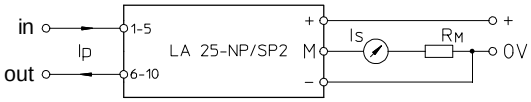


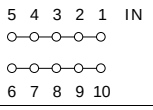
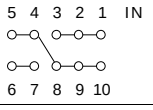
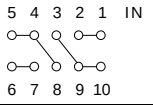
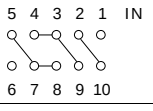
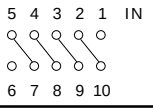
Back view

Secondary terminals

Terminal + : supply voltage + 15 V
Terminal M : measure
Terminal - : supply voltage 0 V

Connection



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	
2	12	18	24	2 : 1000	1.1	0.09	
3	8	12	24	3 : 1000	2.5	0.21	
4	6	9	24	4 : 1000	4.4	0.37	
5	5	7	25	5 : 1000	6.3	0.58	

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

Remark

- I_S is positive when I_P flows from terminals 1, 2, 3, 4, 5 to terminals 10, 9, 8, 7, 6.

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