Current Transducer LA 100-P

I_{PN} = 100 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).

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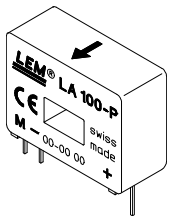


Electrical data

I_{PN}	Primary nominal r.m.s. current			100			A
I_P	Primary current, measuring range			0 .. ± 150			A
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 ± 12 V	@ ± 100 A_{max}	0	50	0	42	Ω
		@ ± 120 A_{max}	0	22	0	14	Ω
	with ± 15 V	@ ± 100 A_{max}	0	110	20	102	Ω
		@ ± 150 A_{max}	0	33	20	25	Ω
I_{SN}	Secondary nominal r.m.s. current			50			mA
K_N	Conversion ratio			1 : 2000			
V_C	Supply voltage (± 5 %)			± 12 .. 15			V
I_C	Current consumption			10 (@ ± 15 V) + I_S			mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn			2.5			kV

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , T_A = 25°C	@ ± 15 V (± 5 %)		± 0.45	%
		@ ± 12 .. 15 V (± 5 %)		± 0.70	%
ε_L	Linearity			< 0.15	%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.10	mA
I_{OM}	Residual current [1] @ I_P = 0, after an overload of 3 x I_{PN}			± 0.15	mA
I_{OT}	Thermal drift of I_O	- 25°C .. + 85°C	± 0.05	± 0.25	mA
		- 40°C .. - 25°C	± 0.10	± 0.50	mA
t_{ra}	Reaction time @ 10 % of I_{PN}			< 500	ns
t_r	Response time [2] @ 90 % of I_{PN}			< 1	µs
di/dt	di/dt accurately followed			> 200	A/µs
f	Frequency bandwidth (- 1 dB)			DC .. 200	kHz

General data

T_A	Ambient operating temperature		- 40 .. + 85	°C
T_S	Ambient storage temperature		- 50 .. + 95	°C
R_S	Secondary coil resistance @	T_A = 70°C	120	Ω
		T_A = 85°C	128	Ω
m	Mass		18	g
	Standards [3]		EN 50178 : 1997	

Features

- Closed loop (compensated) 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.

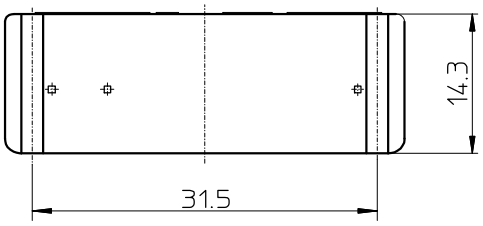
Applications

- 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.

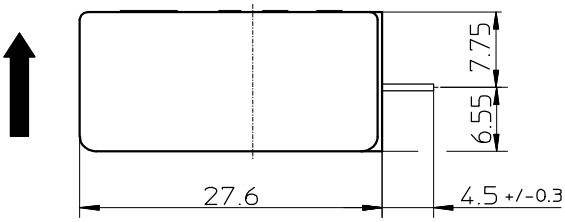
Notes : [1] The result of the coercive field of the magnetic circuit
[2] With a di/dt of 100 A/µs
[3] A list of corresponding tests is available.

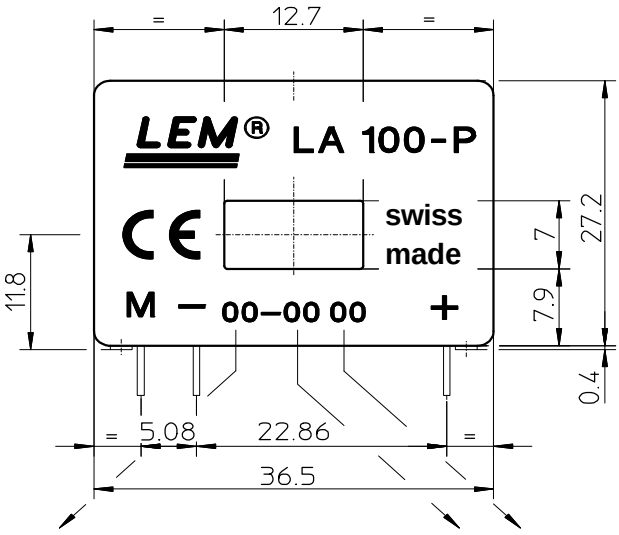
Dimensions LA 100-P (in mm. 1 mm = 0.0394 inch)

Bottom view



Left view



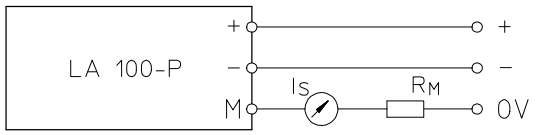


Front view

Secondary terminals

Terminal + : supply voltage + 12 .. 15 V
Terminal - : supply voltage - 12 .. 15 V
Terminal M : measure

Connection



Mechanical characteristics

• General tolerance	± 0.2 mm
• Primary through-hole	12.7 x 7 mm
• Fastening & connection of secondary	3 pins 0.63 x 0.56 mm
Recommended PCB hole	0.9 mm

Remarks

- $\mathbf{I}_S$ is positive when $\mathbf{I}_P$ flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.
- In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.