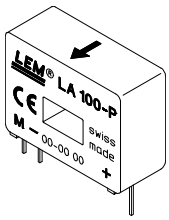
Current Transducer LA 100-P

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).



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 $I_{P\,max}$			< 500	ns
t_r	Response time [2] @ 90 % of $I_{P\,max}$			< 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	

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

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.

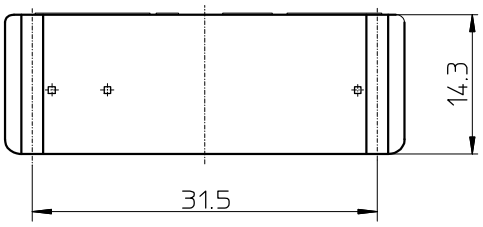
Applications

- 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.

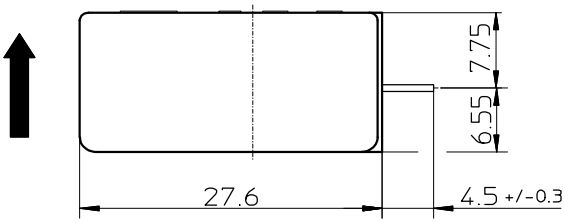
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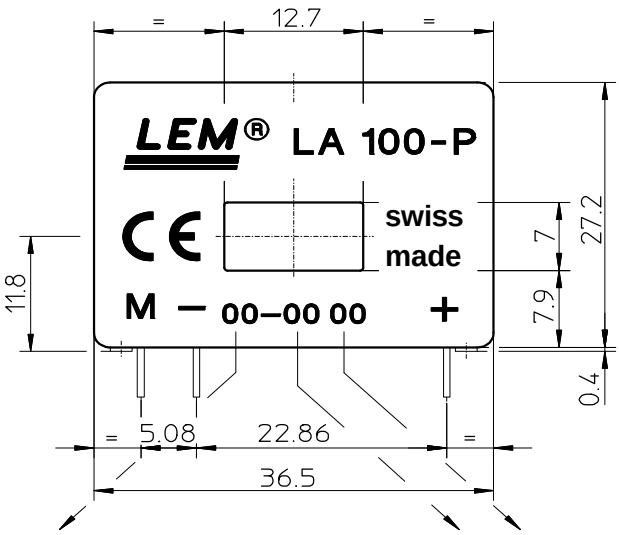
Dimensions LA 100-P (in mm. 1 mm = 0.0394 inch)

Bottom view



Left view



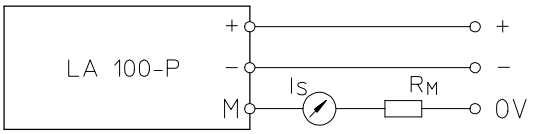


Front view

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.

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