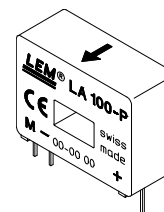


# Current Transducer LA 100-P

$$I_{PN} = 100 \text{ A}$$

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 .. $\pm 150$	A					
$R_M$	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$				
		$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$			
		with $\pm 12 \text{ V}$	@ $\pm 100 \text{ A}_{\max}$	0	50	0	42	$\Omega$
			@ $\pm 120 \text{ A}_{\max}$	0	22	0	14	$\Omega$
		with $\pm 15 \text{ V}$	@ $\pm 100 \text{ A}_{\max}$	0	110	20	102	$\Omega$
	@ $\pm 150 \text{ A}_{\max}$	0	33	20	25	$\Omega$		
$I_{SN}$	Secondary nominal r.m.s. current	50	mA					
$K_N$	Conversion ratio	1 : 2000						
$V_C$	Supply voltage ( $\pm 5\%$ )	$\pm 12 \dots 15$	V					
$I_C$	Current consumption	$10(@\pm 15 \text{ V}) + I_S$	mA					
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	2.5	kV					

## Accuracy - Dynamic performance data

<b>X</b>	Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	@ $\pm 15 \text{ V} (\pm 5\%)$	$\pm 0.45$	%
		@ $\pm 12 \dots 15 \text{ V} (\pm 5\%)$	$\pm 0.70$	%
<b>e<sub>L</sub></b>	Linearity		< 0.15	%
$I_O$	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	$\pm 0.10$	mA
		Max	$\pm 0.15$	mA
$I_{OM}$	Residual current <sup>1)</sup> @ $I_P = 0$ , after an overload of $3 \times I_{PN}$		$\pm 0.05$	mA
$I_{OT}$	Thermal drift of $I_O$	- $25^\circ\text{C} \dots + 85^\circ\text{C}$	$\pm 0.05$	mA
		- $40^\circ\text{C} \dots - 25^\circ\text{C}$	$\pm 0.10$	mA
$t_{ra}$	Reaction time @ 10 % of $I_{P \max}$		< 500	ns
$t_r$	Response time <sup>2)</sup> @ 90 % of $I_{P \max}$		< 1	$\mu\text{s}$
<b>di/dt</b>	di/dt accurately followed		> 200	A/ $\mu\text{s}$
<b>f</b>	Frequency bandwidth (-1 dB)		DC .. 200	kHz

## General data

$T_A$	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$	
$T_S$	Ambient storage temperature	- 50 .. + 95	$^\circ\text{C}$	
$R_S$	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	120	$\Omega$
		$T_A = 85^\circ\text{C}$	128	$\Omega$
<b>m</b>	Mass Standards <sup>3)</sup>		18	g
			EN 50178	

**Notes :** <sup>1)</sup> The result of the coercive field of the magnetic circuit

<sup>2)</sup> With a di/dt of 100 A/ $\mu\text{s}$

<sup>3)</sup> 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.

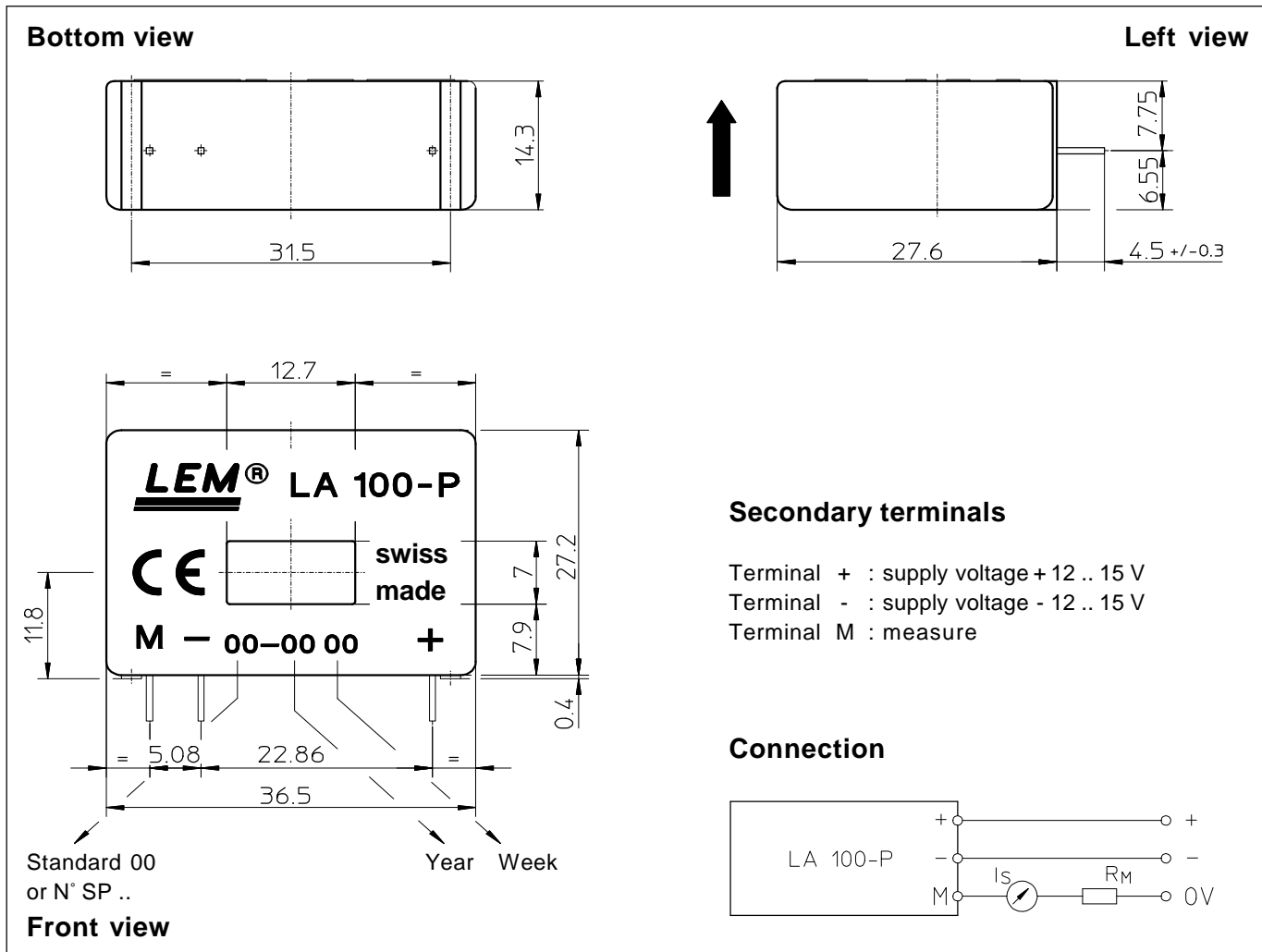
## Advantages

- 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.

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



## Mechanical characteristics

- General tolerance  $\pm 0.2$  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

- $I_s$  is positive when  $I_p$  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.