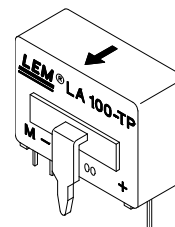


Current Transducer LA 100-TP

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).



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



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 @	<table><tr><th colspan="2">$T_A = 70^{\circ}\text{C}$</th><th colspan="2">$T_A = 85^{\circ}\text{C}$</th><th></th></tr><tr><th>$R_{M \min}$</th><th>$R_{M \max}$</th><th>$R_{M \min}$</th><th>$R_{M \max}$</th><th></th></tr><tr><td colspan="5">with $\pm 12 \text{ V}$</td></tr><tr><td>@ $\pm 100 \text{ A}_{\max}$</td><td>0 50</td><td>0 42</td><td></td><td>Ω</td></tr><tr><td>@ $\pm 120 \text{ A}_{\max}$</td><td>0 22</td><td>0 14</td><td></td><td>Ω</td></tr><tr><td colspan="5">with $\pm 15 \text{ V}$</td></tr><tr><td>@ $\pm 100 \text{ A}_{\max}$</td><td>0 110</td><td>20 102</td><td></td><td>Ω</td></tr><tr><td>@ $\pm 150 \text{ A}_{\max}$</td><td>0 33</td><td>20 25</td><td></td><td>Ω</td></tr></table>	$T_A = 70^{\circ}\text{C}$		$T_A = 85^{\circ}\text{C}$			$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$		with $\pm 12 \text{ V}$					@ $\pm 100 \text{ A}_{\max}$	0 50	0 42		Ω	@ $\pm 120 \text{ A}_{\max}$	0 22	0 14		Ω	with $\pm 15 \text{ V}$					@ $\pm 100 \text{ A}_{\max}$	0 110	20 102		Ω	@ $\pm 150 \text{ A}_{\max}$	0 33	20 25		Ω	
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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																																								
V_b	R.m.s. rated voltage	600	V																																								

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	@ $\pm 15 \text{ V}$ ($\pm 5 \%$)	± 0.45	%
		@ $\pm 12 \dots 15 \text{ V}$ ($\pm 5 \%$)	± 0.70	%
e_L	Linearity		< 0.15	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max	
I_{OM}	Residual current ¹⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$		± 0.10	mA
I_{OT}	Thermal drift of I_O		± 0.15	mA
		- $25^\circ\text{C} \dots + 85^\circ\text{C}$	± 0.05	mA
		- $40^\circ\text{C} \dots - 25^\circ\text{C}$	± 0.10	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	$^\circ\text{C}$
T_S	Ambient storage temperature	- 50 .. + 95	$^\circ\text{C}$
R_S	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	120 Ω
		$T_A = 85^\circ\text{C}$	128 Ω
m	Mass	24	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.

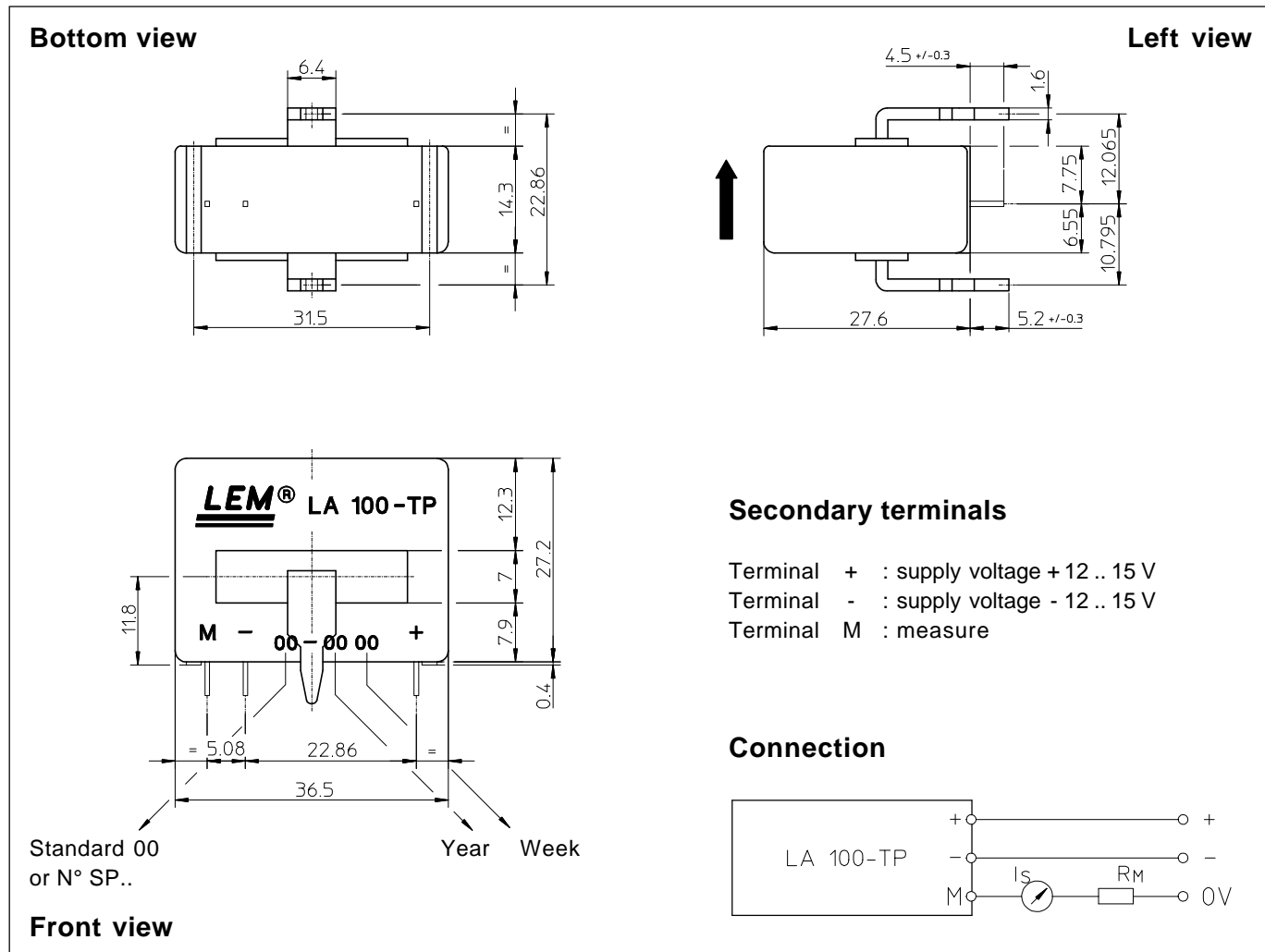
Advantages

- 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.

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



Mechanical characteristics

- General tolerance ± 0.2 mm
- Fastening & connection of primary bus bar 6.4 x 1.6 mm
- Recommended PCB hole 3.8 mm
- Fastening & connection of secondary 3 pins 0.6 x 0.7 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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

060221/7

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

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