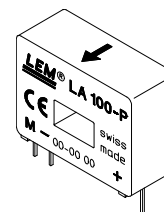


Current Transducer LA 100-P

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

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 .. ± 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 | 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 | | |
| 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

| | | | | |
|----------------------|---|---|------------|------------------|
| 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 | ± 0.10 | mA |
| | | Max | ± 0.15 | mA |
| I_{OM} | Residual current ¹⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$ | | ± 0.05 | mA |
| I_{OT} | Thermal drift of I_O | - $25^\circ\text{C} \dots + 85^\circ\text{C}$ | ± 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 Standards ³⁾ | | 18 | g |
| | | | 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.

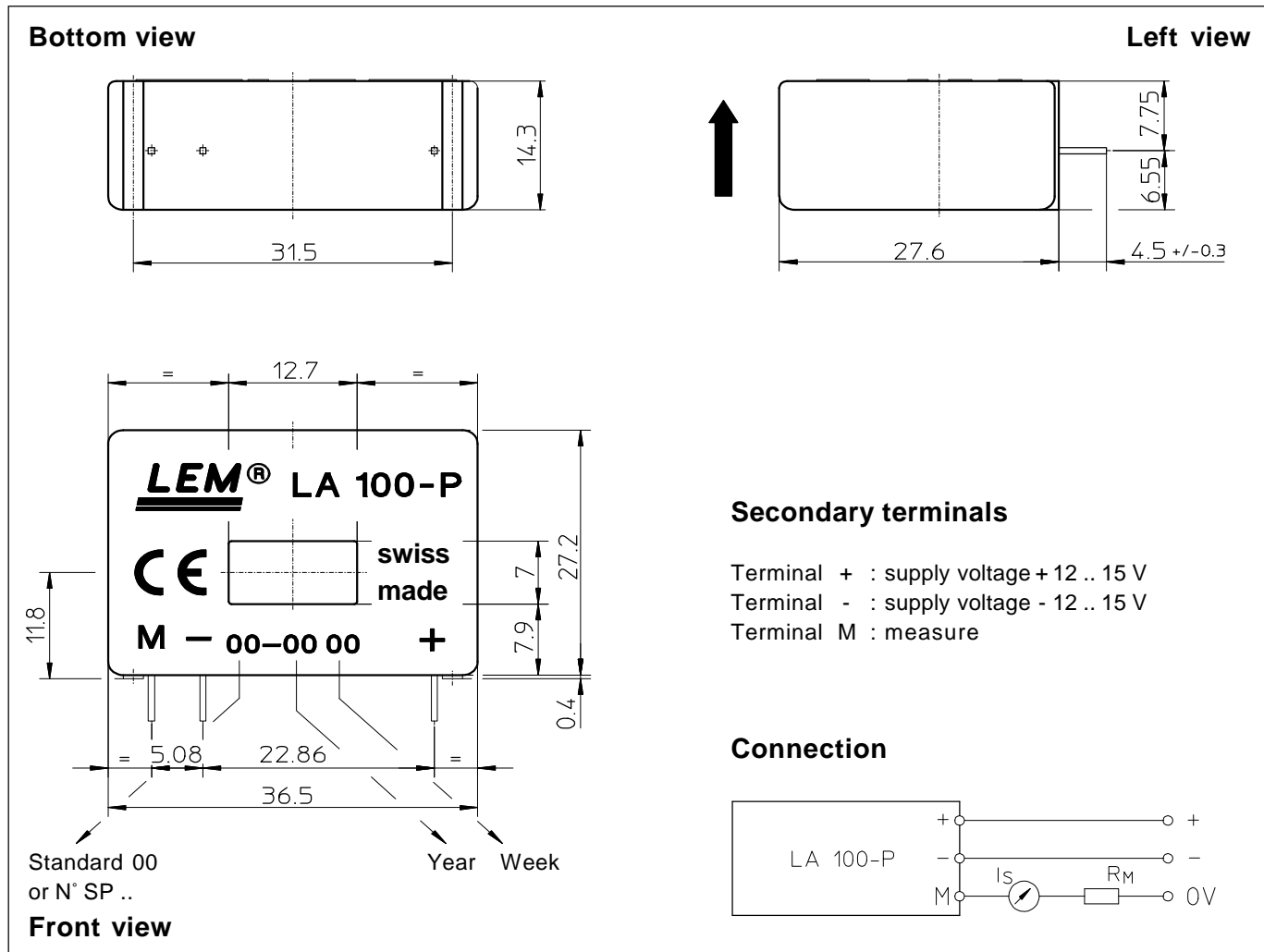
Advantages

- 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-P (in mm. 1 mm = 0.0394 inch)



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

- 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.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.