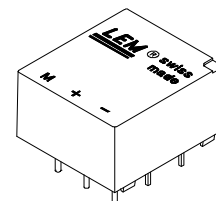


Current Transducer LA 25-NP

$I_{PN} = 5-6-8-12-25 \text{ A}$

For the electronic measurement of currents : DC, AC, pulsed, mixed, 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 | 25 | At | | |
| I_P | Primary current, measuring range | $0 \dots \pm 36$ | At | | |
| R_M | Measuring resistance @ | $T_A = 70^\circ\text{C}$ | | | |
| | | R_{Mmin} | R_{Mmax} | | |
| | | $T_A = 85^\circ\text{C}$ | | | |
| | | R_{Mmin} | R_{Mmax} | | |
| | with $\pm 15 \text{ V}$ | @ $\pm 25 \text{ At}$ | 100 320 | 100 315 | Ω |
| | | @ $\pm 36 \text{ At}_{max}$ | 100 190 | 100 185 | Ω |
| I_{SN} | Secondary nominal r.m.s. current | 25 | mA | | |
| K_N | Conversion ratio | 1-2-3-4-5 | : 1000 | | |
| V_C | Supply voltage ($\pm 5 \%$) | ± 15 | V | | |
| I_C | Current consumption | $10 + I_s$ | 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 ¹⁾ , safe separation | 600 | V | | |
| | | basic isolation | 1700 | V | |

Accuracy - Dynamic performance data

| | | | | | | |
|---|--|------------|---|---|---------------|---------------|
| X | Typical accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$ | ± 0.5 | % | | | |
| e_L | Linearity error | < 0.2 | % | | | |
| I_O | Offset current ²⁾ @ $I_P = 0, T_A = 25^\circ\text{C}$ | Typ | Max | | | |
| | | ± 0.05 | ± 0.15 mA | | | |
| | | I_{OM} | Residual current ³⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$ | ± 0.05 | ± 0.15 mA | |
| | | I_{OT} | Thermal drift of I_O | $0^\circ\text{C} \dots + 25^\circ\text{C}$ | ± 0.06 | ± 0.25 mA |
| | | | | $+ 25^\circ\text{C} \dots + 70^\circ\text{C}$ | ± 0.10 | ± 0.35 mA |
| $- 25^\circ\text{C} \dots + 85^\circ\text{C}$ | | | | ± 0.5 mA | | |
| | $- 40^\circ\text{C} \dots + 85^\circ\text{C}$ | | ± 1.2 mA | | | |
| t_r | Response time ⁴⁾ @ 90 % of I_{PN} | < 1 | μs | | | |
| di/dt | di/dt accurately followed | > 50 | A/ μs | | | |
| f | Frequency bandwidth (- 1 dB) | DC .. 150 | kHz | | | |

General data

| | | | |
|----------|--|----------------------------|------------------|
| T_A | Ambient operating temperature | - 40 .. + 85 | $^\circ\text{C}$ |
| T_S | Ambient storage temperature | - 45 .. + 90 | $^\circ\text{C}$ |
| R_P | Primary resistance per turn @ $T_A = 25^\circ\text{C}$ | < 1.25 | m Ω |
| R_S | Secondary coil resistance @ $T_A = 70^\circ\text{C}$ | 110 | Ω |
| | | @ $T_A = 85^\circ\text{C}$ | 115 |
| R_{IS} | Isolation resistance @ 500 V, $T_A = 25^\circ\text{C}$ | > 1500 | M Ω |
| m | Mass | 22 | g |
| | Standards | EN 50178 : 1997 | |

Notes : ¹⁾ Pollution class 2

²⁾ Measurement carried out after 15 mn functioning

³⁾ The result of the coercive field of the magnetic circuit

⁴⁾ With a di/dt of 100 A/ μs .

Features

- Closed loop (compensated) multi-range current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0.

Advantages

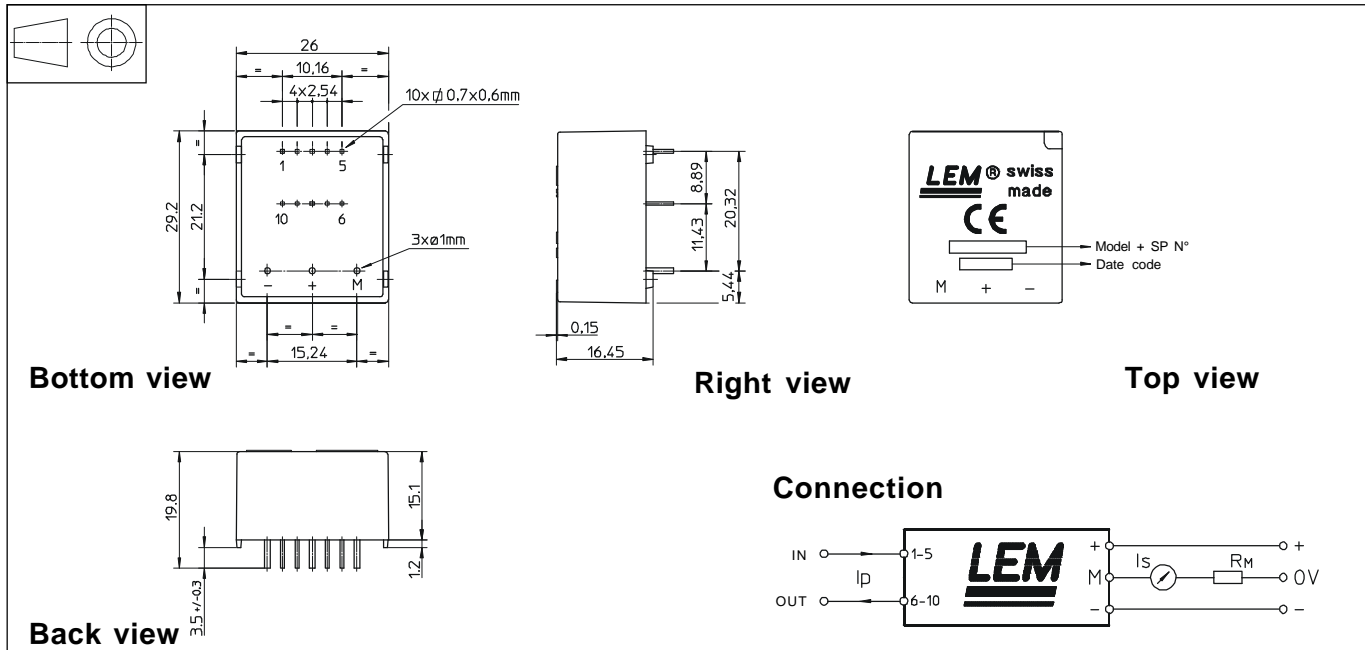
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

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 25-NP (in mm. 1 mm = 0.0394 inch)



| Number of primary turns | Primary current | | Nominal output current I_{SN} [mA] | Turns ratio K_N | Primary resistance R_p [mΩ] | Primary insertion inductance L_p [μH] | Recommended connections |
|-------------------------|----------------------|-------------------|--------------------------------------|-------------------|-------------------------------|---|---|
| | nominal I_{PN} [A] | maximum I_p [A] | | | | | |
| 1 | 25 | 36 | 25 | 1/1000 | 0.3 | 0.023 | 5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10 |
| 2 | 12 | 18 | 24 | 2/1000 | 1.1 | 0.09 | 5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10 |
| 3 | 8 | 12 | 24 | 3/1000 | 2.5 | 0.21 | 5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10 |
| 4 | 6 | 9 | 24 | 4/1000 | 4.4 | 0.37 | 5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10 |
| 5 | 5 | 7 | 25 | 5/1000 | 6.3 | 0.58 | 5 4 3 2 1 IN ○ ○ ○ ○ ○ OUT 6 7 8 9 10 |

Mechanical characteristics

- General tolerance ± 0.2 mm
- Fastening & connection of primary 10 pins 0.7 x 0.6 mm
- Fastening & connection of secondary 3 pins $\varnothing 1$ mm
- Recommended PCB hole 1.2 mm

Remarks

- I_s is positive when I_p flows from terminals 1, 2, 3, 4, 5 to terminals 10, 9, 8, 7, 6
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.