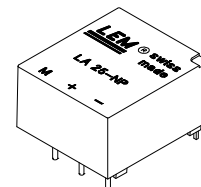


# Current Transducer LA 25-NP/SP14

$$I_{PN} = 0.25 \text{ A}$$

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  | 0.25                         | A                   |
| $I_P$    | Primary current, measuring range  | 0 .. $\pm 0.36$              | A                   |
| $R_M$    | Measuring resistance<br>with $\pm 15 \text{ V}$                         | $R_{Mmin}$                   | $R_{Mmax}$          |
|          |   | @ $\pm 0.25 \text{ A}_{max}$ | 100    320 $\Omega$ |
|          |   | @ $\pm 0.36 \text{ A}_{max}$ | 100    190 $\Omega$ |
| $I_{SN}$ | Secondary nominal r.m.s. current  | 25                           | mA                  |
| $K_N$    | Conversion ratio  | 100 : 1000                   |                     |
| $V_C$    | Supply voltage ( $\pm 5 \%$ )   | $\pm 15$                     | 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 <sup>1)</sup> , safe separation<br>basic isolation | 600                          | V                   |
|          |   | 1700                         | V                   |

## Features

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

## Special features

- $I_{PN} = 0.25 \text{ A}$
- $I_P = 0 .. \pm 0.36 \text{ A}$
- $K_N = 100 : 1000$
- $T_A = -10^\circ\text{C} .. +70^\circ\text{C}$ .

## Accuracy - Dynamic performance data

|          |   |            |               |
|----------|---|------------|---------------|
| $X$      | Typical accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$                                 | $\pm 0.5$  | %             |
| $e_L$    | Linearity   | < 0.2      | %             |
| $I_O$    | Offset current <sup>2)</sup> @ $I_P = 0, T_A = 25^\circ\text{C}$                    | Typ        | Max           |
|          |   | $\pm 0.05$ | $\pm 0.15$ mA |
| $I_{OM}$ | Residual current <sup>3)</sup> @ $I_P = 0$ , after an overload of $3 \times I_{PN}$ | $\pm 0.05$ | $\pm 0.15$ mA |
| $I_{OT}$ | Thermal drift of $I_O$ - $10^\circ\text{C} .. +70^\circ\text{C}$                    | $\pm 0.10$ | $\pm 0.35$ mA |
| $t_r$    | Response time <sup>4)</sup> @ 90 % of $I_{Pmax}$                                    | < 1        | $\mu\text{s}$ |
| $f$      | Frequency bandwidth (-1 dB)   | DC .. 150  | kHz           |

## 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.

## General data

|          |  |            |                  |
|----------|--|------------|------------------|
| $T_A$    | Ambient operating temperature                          | -10 .. +70 | $^\circ\text{C}$ |
| $T_S$    | Ambient storage temperature                            | -25 .. +85 | $^\circ\text{C}$ |
| $R_P$    | Primary coil resistance @ $T_A = 25^\circ\text{C}$     | < 745      | m $\Omega$       |
| $R_S$    | Secondary coil resistance @ $T_A = 70^\circ\text{C}$   | 110        | $\Omega$         |
| $L_P$    | Primary insertion inductance                           | 496        | $\mu\text{H}$    |
| $R_{IS}$ | Isolation resistance @ 500 V, $T_A = 25^\circ\text{C}$ | > 1500     | M $\Omega$       |
| $m$      | Mass<br>Standards <sup>5)</sup>                        | 22         | g                |
|          |  | EN 50178   |                  |

## 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.

Notes : <sup>1)</sup> Pollution class 2

<sup>2)</sup> Measurement carried out after 15 mn functioning

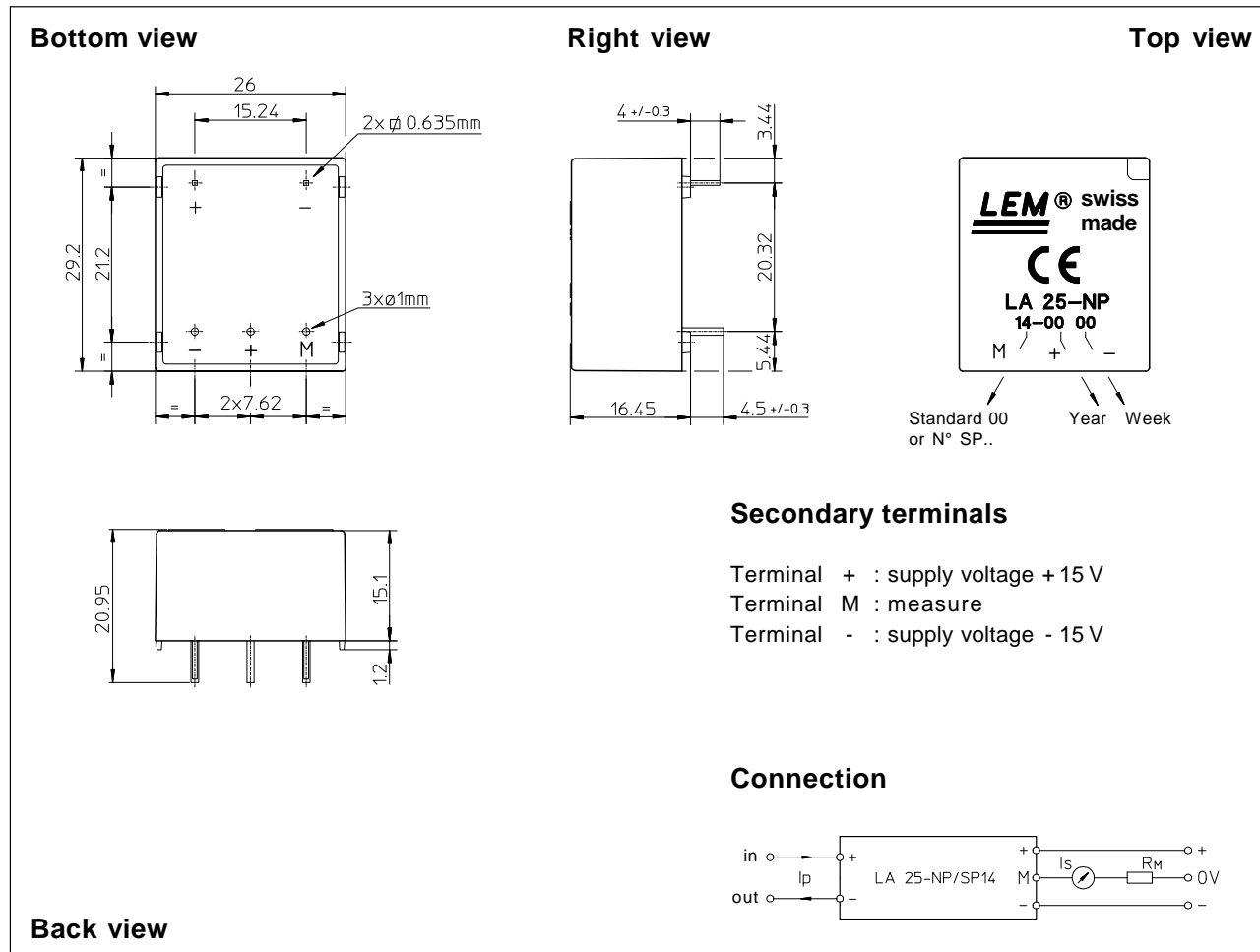
<sup>3)</sup> The result of the coercive field of the magnetic circuit

<sup>4)</sup> With a di/dt of 100 A/ $\mu\text{s}$

<sup>5)</sup> A list of corresponding tests is available

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## Dimensions LA 25-NP/SP14 (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 0.2$  mm
- Fastening & connection of primary 2 pins  
0.635 x 0.635 mm
- Fastening & connection of secondary 3 pins  $\phi$  1 mm
- Recommended PCB hole 1.2 mm

### Remark

- $I_s$  is positive when  $I_p$  flows from terminal + to terminal -.