



## LA 50-P/SP1

### Definition

The «LA 50-P/SP1» is a current transducer for the electronic measurement of currents : DC, AC, IMPL., etc., with galvanic isolation between the primary (high power) and the secondary (electronic) circuits.

### Electrical data

Nominal current $I_N$	: 50 A rms
Measuring range	: 0 to $\pm 100$ A
Measuring resistance	: $R_M$ min. $R_M$ max.
with $\pm 15$ V            at $\pm 50$ A max.	: 0 ohm                              300 ohm
at $\pm 100$ A max.	: 0 ohm                              70 ohm
Nominal analog output current	: 25 mA
Turns ratio	: 1 : 2000
Overall accuracy at +25°C	: $\pm 0.8$ % of $I_N$
Supply voltage	: + and - 15 V ( $\pm 5$ %)
Isolation	: between primary and secondary : 2 kV rms/50 Hz/1 min.

### Accuracy - Dynamic performance

Zero offset current at +25°C	: max. $\pm 0.15$ mA
Thermal drift of offset current (between 0°C and +70°C)	: typical $\pm 0.2$ mA max. $\pm 0.3$ mA
Linearity	: better than 0.1 %
Response time	: better than 1 $\mu$ s
di/dt accurately followed	: better than 50 A/ $\mu$ s
Bandwidth	: 0 to 150 kHz (-1dB)
Error in number of turns	: $\pm 0.1$ %

### General data

Operating temperature	: 0°C to +70°C
Storage temperature	: -25°C to +85°C
Current consumption	: 10 mA + output current
Secondary internal resistance	: 160 ohm (at +70°C)
Package	: insulated plastic case
Weight	: 20 g.
Fastening	: for mounting on printed circuit by 3 pins 0.63 x 0.56 mm
Connection to primary circuit	: through-hole 12.7 x 6.4 mm
secondary circuit	: on 3 pins 0.63 x 0.56 mm
Polarity markings	: a positive measuring current is obtained on terminal M, when the primary current flows in the direction of the arrow.

**Particularity** : turns ratio 1 : 2000

Note : The temperature of the primary conductor should not exceed 100°C.

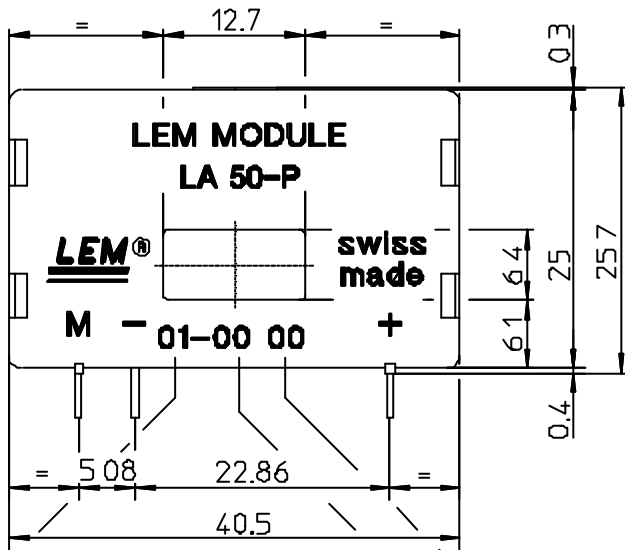
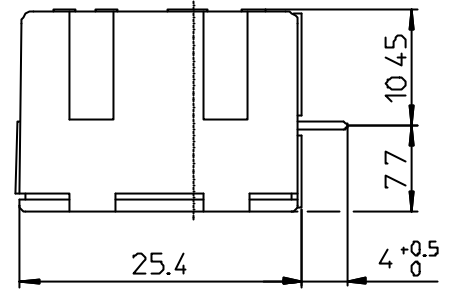
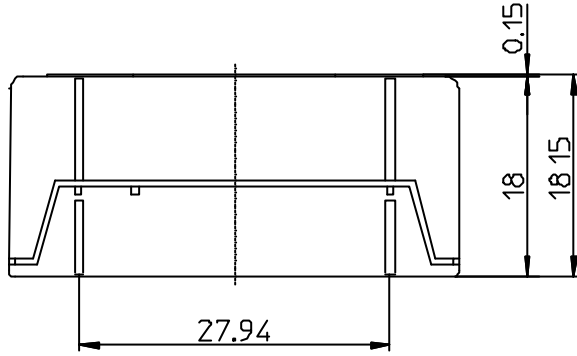
**Remarks :** - To measure nominal currents of less than 50 A, the optimum accuracy is obtained by having several primary turns (nom. current x number of turns = 50 At.).

Example :      measuring 5 A with 1 primary turn, accuracy equals  $\pm 0.205 \text{ A} = \pm 4.1 \%$  at  $+25^\circ\text{C}$   
                   measuring 5 A with 10 primary turns, accuracy equals  $\pm 0.025 \text{ A} = \pm 0.5 \%$  at  $+25^\circ\text{C}$   
                   (in this case, the measuring current is 25 mA for 5 A primary current)

- Dynamic performance (di/dt and response time) is best with a single bar completely filling the primary hole.
- In order to achieve the best magnetic coupling, the primary windings have to pass over the top side of the device.

**Dimensions LA 50-P/SP1**

General tolerance  $\pm 0.2 \text{ mm}$   
 Recommended hole size  $\varnothing 0.9 \text{ mm}$



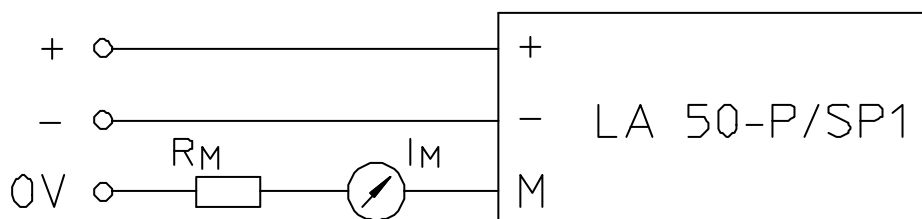
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or N° SP.

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**Secondary terminals :**

- Terminal + : supply voltage + 15 V
- Terminal - : supply voltage - 15 V
- Terminal M : measure

**Connection :**



«This data sheet is a translation of the French version which is deemed authentic.»

We reserve the right to carry out modifications on our transducers, in order to improve them, without previous notice.