

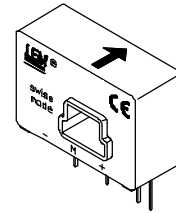
Current Transducer LA 125-P

$$I_{PN} = 125 \text{ A}$$

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).



16030



Electrical data

| | | | | | | | |
|----------|---|------------------------------------|-----------------------------|--------------------------|---------------------------|------------|-------------|
| I_{PN} | Primary nominal r.m.s. current | 125 | A | | | | |
| I_P | Primary current, measuring range | 0 .. ± 200 | A | | | | |
| R_M | Measuring resistance @ | $T_A = 70^\circ\text{C}$ | | $T_A = 85^\circ\text{C}$ | | | |
| | | | R_{Mmin} | R_{Mmax} | R_{Mmin} | R_{Mmax} | |
| | | with $\pm 12 \text{ V}$ | @ $\pm 125 \text{ A}_{max}$ | 5 | 52 | 14 | 50 Ω |
| | | | @ $\pm 200 \text{ A}_{max}$ | 5 | 20 | 14 | 18 Ω |
| | | with $\pm 15 \text{ V}$ | @ $\pm 125 \text{ A}_{max}$ | 25 | 74 | 40 | 72 Ω |
| | @ $\pm 200 \text{ A}_{max}$ | 25 | 34 | 40 ¹⁾ | 40 ¹⁾ Ω | | |
| I_{SN} | Secondary nominal r.m.s. current | 125 | mA | | | | |
| K_N | Conversion ratio | 1 : 1000 | | | | | |
| V_C | Supply voltage ($\pm 5\%$) | $\pm 12 \dots 15$ | V | | | | |
| I_C | Current consumption | 16 (@ $\pm 15 \text{ V}$) + I_S | mA | | | | |
| V_d | R.m.s. voltage for AC isolation test, 50 Hz, 1 mn | 3 | kV | | | | |

Accuracy - Dynamic performance data

| | | | | |
|----------|---|--|------------|------------------|
| X | Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$ | @ $\pm 15 \text{ V} (\pm 5\%)$ | ± 0.60 | % |
| | | @ $\pm 12 \dots 15 \text{ V} (\pm 5\%)$ | ± 0.80 | % |
| e_L | Linearity error | | < 0.15 | % |
| I_O | Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$ | | Typ | Max |
| I_{OM} | Residual current ²⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$ | | | ± 0.40 mA |
| I_{OT} | Thermal drift of I_O | 0 $^\circ\text{C}$.. +70 $^\circ\text{C}$ | ± 0.15 | ± 0.50 mA |
| | | -40 $^\circ\text{C}$.. +85 $^\circ\text{C}$ | ± 0.30 | ± 0.95 mA |
| t_{ra} | Reaction time @ 10 % of I_{PN} | | < 500 | ns |
| t_r | Response time ^{3) 4)} @ 90 % of I_{PN} | | < 1 | μs |
| di/dt | di/dt accurately followed ⁴⁾ | | > 200 | A/ μs |
| f | Frequency bandwidth ⁴⁾ (-1 dB) | | DC .. 100 | kHz |

General data

| | | | |
|-------|-------------------------------|--------------------------|------------------|
| T_A | Ambient operating temperature | -40 .. +85 | $^\circ\text{C}$ |
| T_S | Ambient storage temperature | -40 .. +90 | $^\circ\text{C}$ |
| R_S | Secondary coil resistance @ | $T_A = 70^\circ\text{C}$ | 32 Ω |
| | | $T_A = 85^\circ\text{C}$ | 33.5 Ω |
| m | Mass | 40 | g |
| | Standards | EN 50178 : 1997 | |

- Notes :**
- 1) Measuring range limited to $\pm 180 \text{ A}_{max}$
 - 2) The result of the coercive field of the magnetic circuit.
 - 3) With a di/dt of 100 A/ μs
 - 4) The primary conductor is best filling the through-hole and/or the return of the primary conductor is above the top of the transducer.

Features

- Closed loop (compensated) current transducer using the Hall effect
- Printed circuit board mounting
- Insulated plastic case recognized according to UL 94-V0.

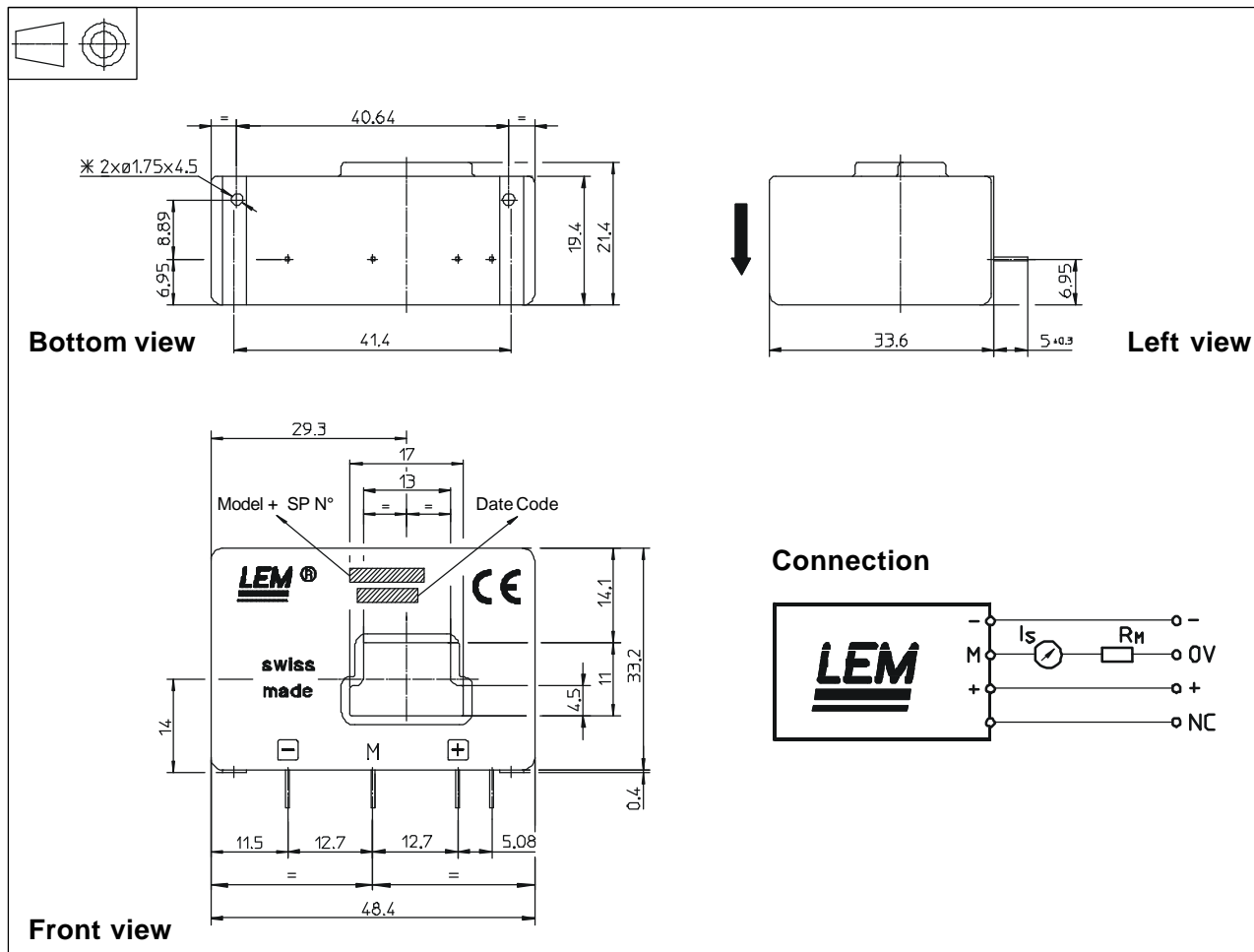
Advantages

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



Mechanical characteristics

| | |
|---------------------------------------|-------------------------------|
| • General tolerance | ± 0.2 mm |
| • Primary through-hole | 17 x 11 mm |
| • Fastening & connection of secondary | 4 pins 0.63 x 0.56 mm |
| Recommended PCB hole | 0.9 mm |
| • Supplementary fastening | 2 holes $\varnothing 1.75$ mm |
| Recommended PCB hole | 2.4 mm |
| Recommended screws | PT KA 22 x 6 |
| Fastening torque, max. | 0.5 Nm or .37 Lb. - Ft. |

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 90°C.
- Dynamic performances (di/dt and response time) are best with a primary bar in low position in the through-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.