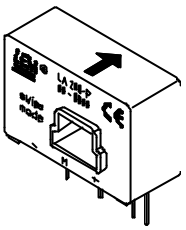
# Current Transducer LA 200-P

$I_{PN}$ = 200 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 | | | 200 | | | A |
| $I_P$ | Primary current, measuring range | | | 0 .. ± 300 | | | A |
| $R_M$ | Measuring resistance @ | | $T_A$ = 70°C | | $T_A$ = 85°C | | |
| | | | $R_{M\,min}$ | $R_{M\,max}$ | $R_{M\,min}$ | $R_{M\,max}$ | |
| | with ± 12 V | @ ± 200 A $_{max}$ | 0 | 30 | 0 | 26 | Ω |
| | | @ ± 250 A $_{max}$ | 0 | 8 | 0 | 4 | Ω |
| | with ± 15 V | @ ± 200 A $_{max}$ | 0 | 60 | 0 | 56 | Ω |
| | | @ ± 300 A $_{max}$ | 0 | 12 | 0 | 8 | Ω |
| $I_{SN}$ | Secondary nominal r.m.s. current | | | 100 | | | mA |
| $K_N$ | Conversion ratio | | | 1 : 2000 | | | |
| $V_C$ | Supply voltage (± 5 %) | | | ± 12 .. 15 | | | V |
| $I_C$ | Current consumption | | | 16 (@ ± 15 V) + $I_S$ | | | mA |
| $V_d$ | R.m.s. voltage for AC isolation test, 50 Hz, 1 mn | | | 3 | | | kV |
| $V_b$ | R.m.s. rated voltage, [1] | safe separation | | 900 | | | V |
| | | basic isolation | | 450 | | | V |
| $V_e$ | R.m.s. voltage for partial discharge extinction | | | > 1.8 | | | kV |
| $\hat{V}_W$ | Impulse withstand voltage 1.2/50 µs | | | > 8 | | | kV |

## Accuracy - Dynamic performance data

| | | | | | |
|---|---|---|---|---|---|
| X | Accuracy @ $I_{PN}$ , $T_A$ = 25°C | @ ± 15 V (± 5 %) | | ± 0.40 | % |
| | | @ ± 12 .. 15 V (± 5 %) | | ± 0.65 | % |
| $e_L$ | Linearity error | | | < 0.15 | % |
| | | | Typ | Max | |
| $I_O$ | Offset current @ $I_P$ = 0, $T_A$ = 25°C | | | ± 0.20 | mA |
| $I_{OM}$ | Residual current [2] @ $I_P$ = 0, after an overload of 3 x $I_{PN}$ | | | ± 0.25 | mA |
| $I_{OT}$ | Thermal drift of $I_O$ | 0°C .. + 70°C | ± 0.10 | ± 0.25 | mA |
| | | - 40°C .. + 85°C | ± 0.15 | ± 0.55 | mA |
| $t_{ra}$ | Reaction time @ 10 % of $I_{P\,max}$ | | | < 500 | ns |
| $t_r$ | Response time [3] [4] @ 90 % of $I_{P\,max}$ | | | < 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 | °C |
| $T_S$ | Ambient storage temperature | | - 40 .. + 90 | °C |
| $R_S$ | Secondary coil resistance @ | $T_A$ = 70°C | 76 | Ω |
| | | $T_A$ = 85°C | 80 | Ω |
| m | Mass | | 40 | g |
| | Standards | | EN 50178 : 1997 | |

Notes : [1] Pollution class 2
[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.

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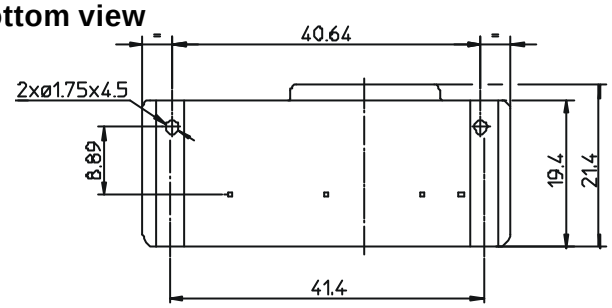
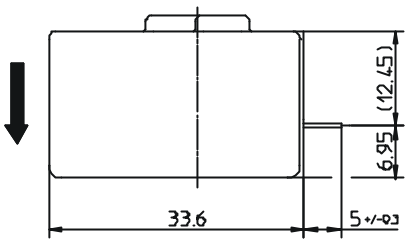
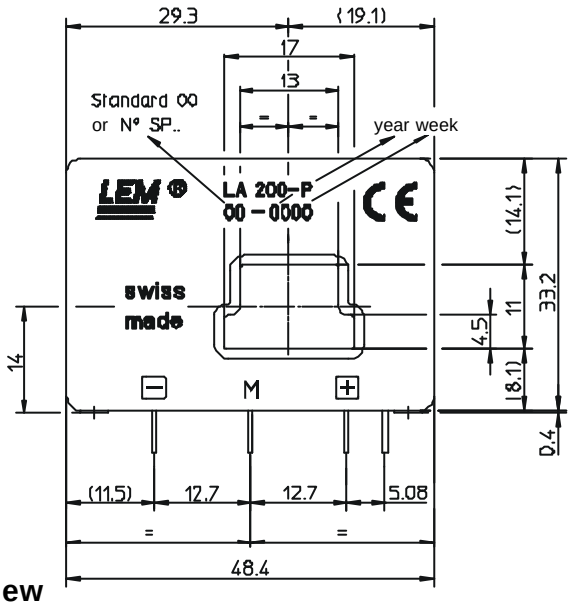
## Dimensions LA 200-P (in mm. 1 mm = 0.0394 inch)

**Bottom view**




**Left view**



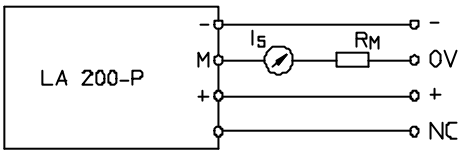




**Front view**

### Secondary terminals

Terminal - : supply voltage - 12 .. 15 V
Terminal M : measure
Terminal + : supply voltage + 12 .. 15 V
Terminal : NC

### Connection




### Mechanical characteristics

- General tolerance ± 0.2 mm
- Primary through-hole 17 x 11 mm
- Fastening & connection of primary 4 pins 0.63 x 0.56 mm
  Recommended PCB hole 0.9 mm
- Supplementary fastening 2 holes ∅ 1.75 mm
  Recommended PCB hole 2.4 mm
  Recommended screws PT KA 22 x 6

### 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.