# Voltage Transducer LV 200-AW/2/SP91 $V_{PN}$ = 3400 V

For the electronic measurement of voltages : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high voltage) and the secondary circuit (electronic circuit).

## Electrical data

| | | | | | |
|---|---|---|---|---|---|
| $V_{PN}$ | Primary nominal r.m.s. voltage | | 3400 | | V |
| $V_P$ | Primary voltage, measuring range | | 0 .. ± 4200 | | V |
| $R_M$ | Measuring resistance | | $R_{M\,min}$ | $R_{M\,max}$ | |
| | with ± 24 V | @ ± 3400 $V_{max}$ | 50 | 220 | Ω |
| | | @ ± 4200 $V_{max}$ | 50 | 170 | Ω |
| $I_{SN}$ | Secondary nominal r.m.s. current | | 80 | | mA |
| $K_N$ | Conversion ratio | | 3400 V / 80 mA | | |
| $V_C$ | Supply voltage (± 5 %) | | ± 24 | | V |
| $I_C$ | Current consumption | | 30 + $I_S$ | | mA |
| $V_d$ | R.m.s. voltage for AC isolation test, 50 Hz, 1 mn | | 12 [1] | | kV |
| | | | 1 [2] | | kV |
| $V_e$ | R.m.s. voltage for partial discharge extinction @ 10 pC | | > 4 | | kV |
| LS | Clearance distance | | 186 | | mm |
| KS | Creepage distance | | 195 | | mm |

## Accuracy - Dynamic performance data

| | | | | | |
|---|---|---|---|---|---|
| X | Accuracy @ $V_{PN}$, $T_A$ = 25 °C | | ± 0.5 | | % |
| $\varepsilon_L$ | Linearity | | < 0.1 | | % |
| | | | Typ | Max | |
| $I_O$ | Offset current @ $I_P$ = 0, $T_A$ = 25 °C | | | ± 0.3 | mA |
| $I_{OT}$ | Thermal drift of $I_O$ | - 25 °C .. + 70 °C | ± 0.3 | ± 0.6 | mA |
| $t_r$ | Response time @ 90 % of $V_{PN}$ | | 400 | | µs |

## General data

| | | | |
|---|---|---|---|
| $T_A$ | Ambient operating temperature | - 25 .. + 70 | °C |
| $T_S$ | Ambient storage temperature | - 40 .. + 85 | °C |
| N | Turns ratio | 85000 / 2500 | |
| $R_1$ | Primary resistance @ $T_A$ = 25 °C | 1.44 | MΩ |
| $R_S$ | Secondary coil resistance @ $T_A$ = 70 °C | 40 | Ω |
| P | Total primary power loss @ $V_{PN}$ | 8 | W |
| m | Mass | 2.5 | kg |
| | Standards [3] | EN 50178 (01.10.97) | |

Notes : [1] Between primary and secondary + shield
[2] Between secondary and shield
[3] A list of corresponding tests is available.

## Features

- Closed loop (compensated) voltage transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0
- Accessible electronic circuit
- Shield between primary and secondary circuit
- Primary resistor $R_1$ incorporated into the housing.

## Special features

- $V_P$ = 0 .. ± 4200 V
- $T_A$ = - 25 °C .. + 70 °C
- Built-In primary resistance $R_1$ is connected in 2 equal parts to both sides of the primary winding
- Internal shield linked to the external shield
- Shield around connections of secondary

## Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- High immunity to external interference.

## Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Uninterruptible Power Supplies (UPS)
- Power supplies for welding applications.

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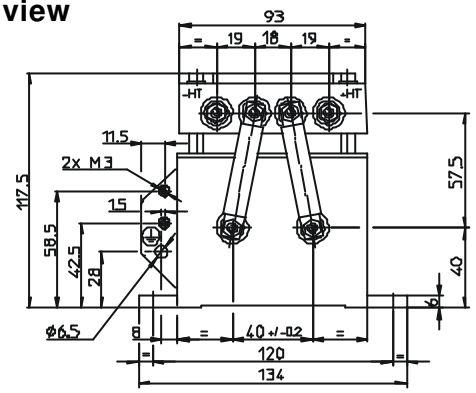
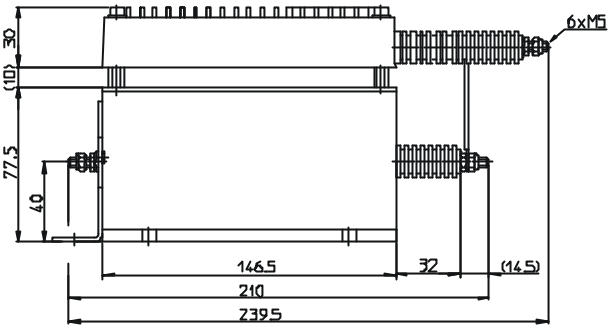
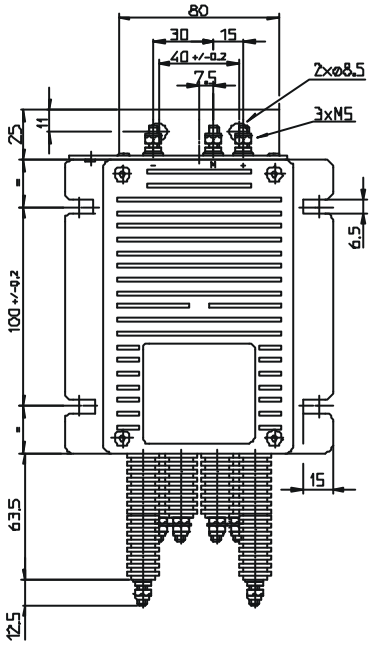
## Dimensions LV 200-AW/2/SP91 (in mm. 1 mm = 0.0394 inch)

**Front view**




**Left view**



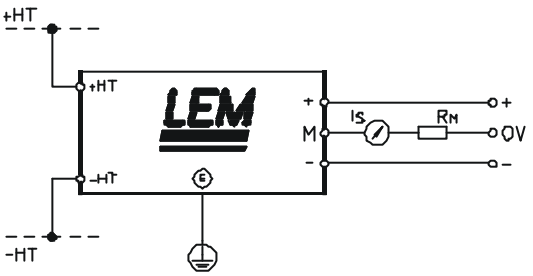




**Top view**

### Secondary terminals

Terminal + : supply voltage + 24 V
Terminal M : measure
Terminal - : supply voltage - 24 V
Terminal ⏚ : earth

### Connection




### Caractéristiques mécaniques

| | |
|---|---|
| • General tolerance | ± 0.5 mm |
| • Transducer fastening | 4 slots ∅ 6.5 mm |
| | 4 x M6 steel screws |
| Recommended fastening torque | 4.5 Nm or 3.32 Lb. - Ft. |
| • Connection of primary | M5 threaded studs |
| • Connection of secondary | M5 threaded studs |
| • Recommended fastening torque | 2.2 Nm or 1.62 Lb. - Ft. |
| • Connection to the ground | hole ∅ 6.5 mm |
| and / or | 2 holes ∅ 8.5 mm |
| and / or | M3 screw terminals |

### Remarks

- $\mathbf{I}_S$ is positive when $\mathbf{V}_P$ is applied on terminal +HT.
- The primary circuit of the transducer must be connected to the voltage which has to be measured.