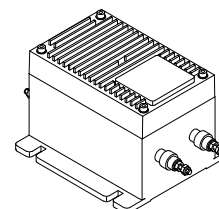


## Voltage Transducer LV 200-AW/2

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).

$$I_{PN} = 20 \text{ mA}$$

$$V_{PN} = 100 \dots 2500 \text{ V}$$



### Electrical data

$I_{PN}$	Primary nominal r.m.s. current	20	mA		
$I_p$	Primary current, measuring range	0 .. $\pm 40$	mA		
$R_M$	Measuring resistance	$R_{M \min}$	$R_{M \max}$		
				with $\pm 15 \text{ V}$	@ $\pm 20 \text{ mA}_{\max}$
		@ $\pm 40 \text{ mA}_{\max}$	0	25	$\Omega$
	with $\pm 24 \text{ V}$	@ $\pm 20 \text{ mA}_{\max}$	60	170	$\Omega$
	@ $\pm 40 \text{ mA}_{\max}$	60	65	$\Omega$	
$I_{SN}$	Secondary nominal r.m.s. current	100	mA		
$I_S$	Secondary current @ $I_{P \max}$	200	mA		
$K_N$	Conversion ratio	10000 : 2000			
$V_C$	Supply voltage ( $\pm 10 \%$ )	$\pm 15 \dots 24$	V		
$I_C$	Current consumption	$30(@\pm 24 \text{ V}) + I_S$	mA		
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6 <sup>1)</sup>	kV		
		1 <sup>2)</sup>	kV		
$V_e$	R.m.s. voltage for partial discharges extinction @ 10 pC	2.5	kV		

### 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.

### Principle of use

- For voltage measurements, a current proportional to the measured voltage must be passed through an external resistor  $R_1$  which is selected by the user and installed in series with the primary circuit of the transducer.

### Accuracy - Dynamic performance data

$X_G$	Overall Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$	$\pm 0.5$	%
$e_L$	Linearity	$< 0.1$	%
$I_O$	Offset current @ $I_P = 0$ , $T_A = 25^\circ\text{C}$	Typ	$\pm 0.3$ mA
		Max	$\pm 0.7$ mA
$I_{OT}$	Thermal drift of $I_O$	$-25^\circ\text{C} \dots +70^\circ\text{C}$	mA
$t_r$	Response time <sup>3)</sup> @ 90 % of $V_{P \max}$	20 .. 100	$\mu\text{s}$

### Advantages

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

### General data

$T_A$	Ambient operating temperature	$-25 \dots +70$	$^\circ\text{C}$
$T_S$	Ambient storage temperature	$-40 \dots +85$	$^\circ\text{C}$
$R_P$	Primary coil resistance @ $T_A = 25^\circ\text{C}$	420	$\Omega$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	40	$\Omega$
$m$	Mass	1.6	kg
	Standards <sup>4)</sup>	EN 50178	

### Applications

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

**Notes :** <sup>1)</sup> Between primary and secondary + shield

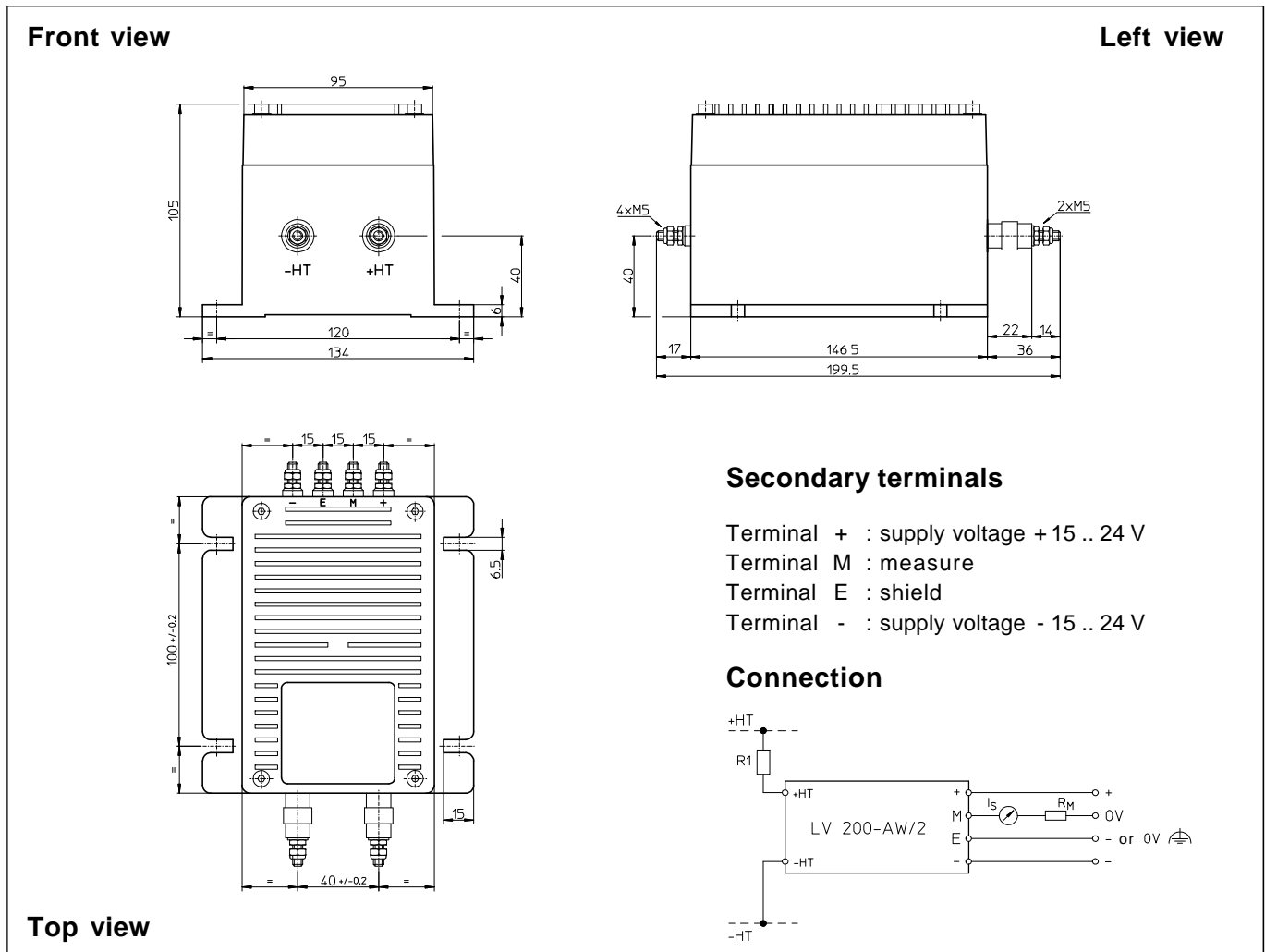
<sup>2)</sup> Between secondary and shield

<sup>3)</sup>  $R_1 = 50 \text{ k}\Omega$  (L/R constant, produced by the resistance and inductance of the primary circuit)

<sup>4)</sup> A list of corresponding tests is available

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



## Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Fastening 4 holes  $\varnothing 6.5$  mm
- Connection of primary M5 threaded studs
- Connection of secondary M5 threaded studs
- Fastening torque 2.2 Nm or 1.62 Lb - Ft.

## Remarks

- $I_s$  is positive when  $V_p$  is applied on terminal +HT.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

## Instructions for use of the voltage transducer model LV 200-AW/2

Primary resistor  $R_1$  : the transducer's optimum accuracy is obtained at the nominal primary current. As far as possible,  $R_1$  should be calculated so that the nominal voltage to be measured corresponds to a primary current of 20 mA.

Example: Voltage to be measured  $V_{PN} = 1000$  V

- a)  $R_1 = 50$  k $\Omega$ /40 W,  $I_p = 20$  mA Accuracy =  $\pm 0.5$  % of  $V_{PN}$  (@  $T_A = +25^\circ\text{C}$ )
- b)  $R_1 = 200$  k $\Omega$ /10 W,  $I_p = 5$  mA Accuracy =  $\pm 2.0$  % of  $V_{PN}$  (@  $T_A = +25^\circ\text{C}$ )

Operating range (recommended) : taking into account the resistance of the primary windings (which must remain low compared to  $R_1$ , in order to keep thermal deviation as low as possible) and the isolation, this transducer is suitable for measuring nominal voltages from 100 to 2500 V.