

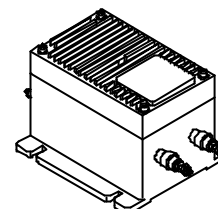
Voltage Transducer LV 200-AW/2

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 .. ± 40	mA		
R_M	Measuring resistance	$R_{M \text{ min}}$	$R_{M \text{ max}}$		
				with $\pm 15 \text{ V}$	@ $\pm 20 \text{ mA}_{\text{max}}$
		@ $\pm 40 \text{ mA}_{\text{max}}$	0	25	Ω
	with $\pm 24 \text{ V}$	@ $\pm 20 \text{ mA}_{\text{max}}$	60	170	Ω
	@ $\pm 40 \text{ mA}_{\text{max}}$	60	65	Ω	
I_{SN}	Secondary nominal r.m.s. current	100	mA		
I_S	Secondary current @ $I_{P \text{ max}}$	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 ¹⁾	kV		
		1 ²⁾	kV		
V_e	R.m.s. voltage for partial discharges extinction @ 10 pC	2.5	kV		

Accuracy - Dynamic performance data

X_G	Overall Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.5	%	
e_L	Linearity error	< 0.1	%	
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max	
			± 0.3	mA
I_{OT}	Thermal drift of I_O	± 0.4	± 0.7	mA
t_r	Response time ³⁾ @ 90 % of V_{PN}	20 .. 100	μs	

General data

T_A	Ambient operating temperature	- 25 .. + 70	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 85	$^\circ\text{C}$
R_P	Primary coil resistance @ $T_A = 25^\circ\text{C}$	420	Ω
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	40	Ω
m	Mass	1.6	kg
	Standards	EN 50178(01.10.97)	

Notes : ¹⁾ Between primary and secondary + shield

²⁾ Between secondary and shield

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

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.

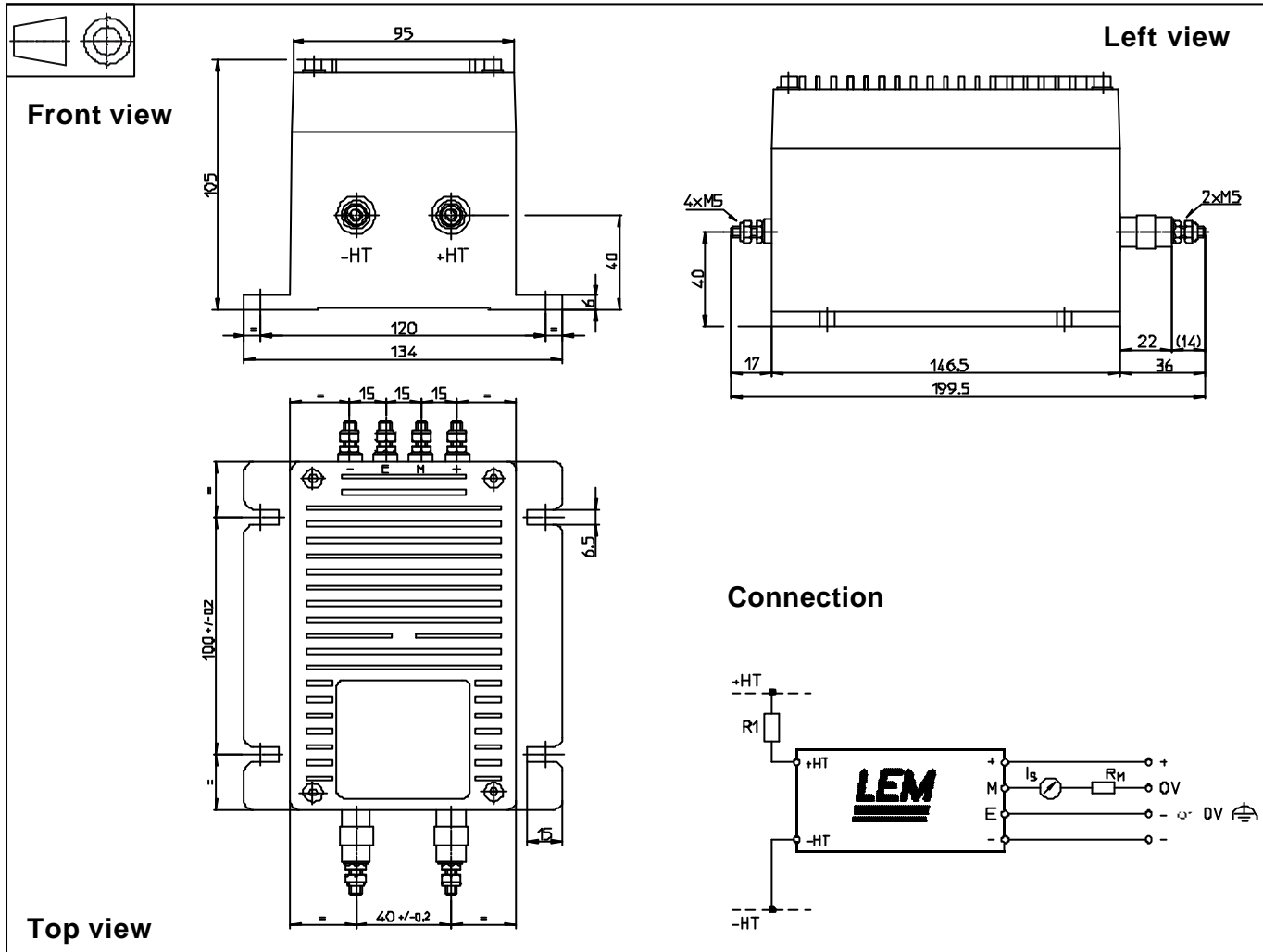
Advantages

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

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.

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



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening of the transducer
 - 4 slots $\varnothing 6.5$ mm
 - 4 steel screws M6
- 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.

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 Ω /40 W, $I_p = 20$ mA	Accuracy = ± 0.5 % of V_{PN} (@ $T_A = +25^\circ\text{C}$)
b) $R_1 = 200$ k Ω /10 W, $I_p = 5$ mA	Accuracy = ± 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.