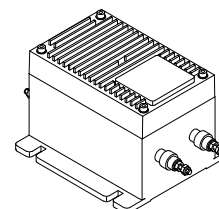


Voltage Transducer LV 200-AW/2

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	$R_{M \min}$	$R_{M \max}$			
				with $\pm 15 \text{ V}$	@ $\pm 20 \text{ mA}_{\max}$	0
			@ $\pm 40 \text{ mA}_{\max}$	0	25	Ω
		with $\pm 24 \text{ V}$	@ $\pm 20 \text{ mA}_{\max}$	60	170	Ω
	@ $\pm 40 \text{ mA}_{\max}$	60	65	Ω		
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 ¹⁾	kV			
		1 ²⁾	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} , $T_A = 25^\circ\text{C}$	± 0.5	%	
e_L	Linearity	< 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	$-25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.7	mA
t_r	Response time ³⁾ @ 90 % of $V_{P \max}$	20 .. 100	μs	

Advantages

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

General data

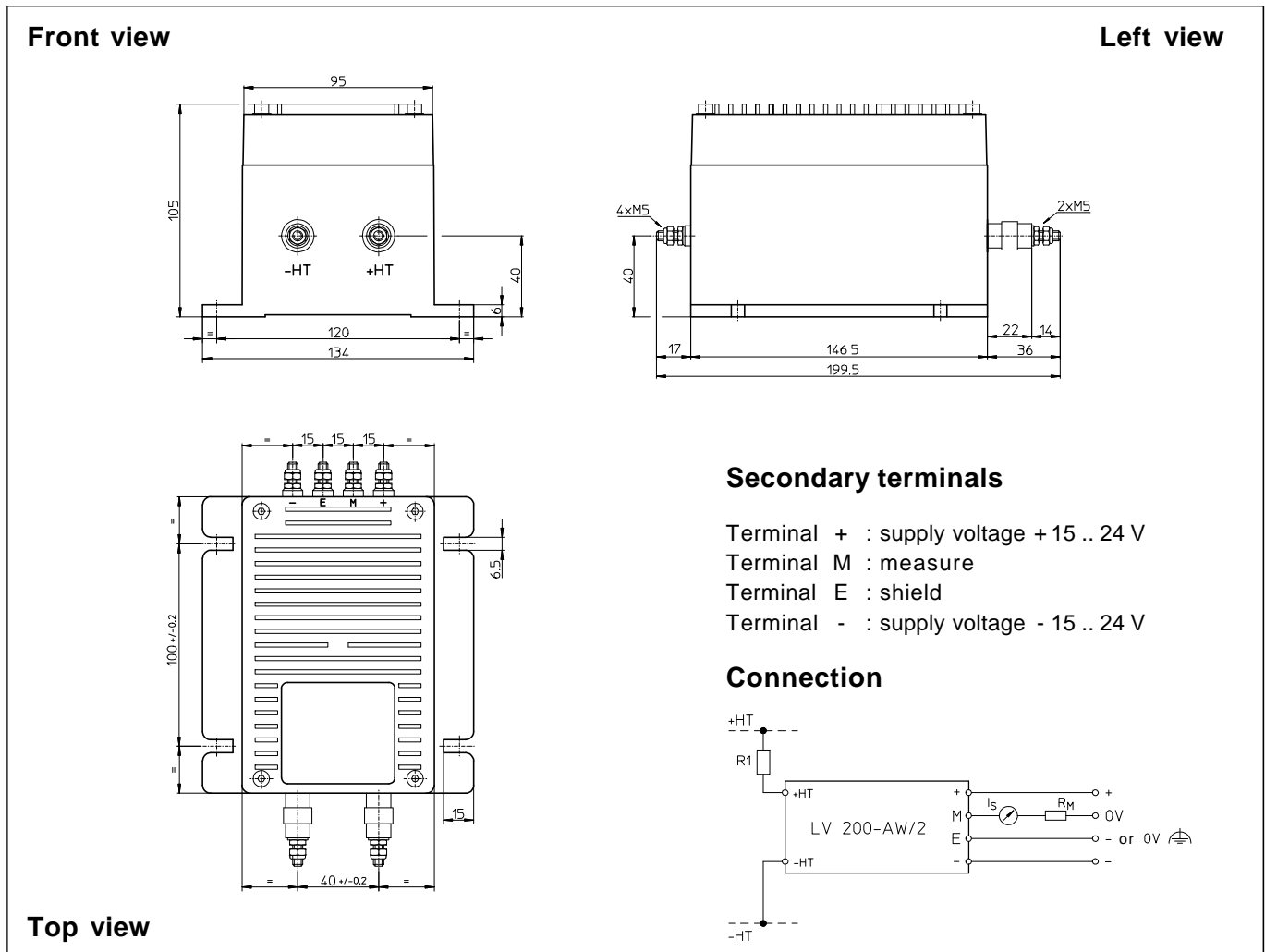
T_A	Ambient operating temperature	- 25 .. + 70	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 85	$^\circ\text{C}$
R_P	Primary coil resistance @ $T_A = 25^\circ\text{C}$	420	Ω
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	40	Ω
m	Mass	1.6	kg
	Standards ⁴⁾	EN 50178	

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 : 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)
 4) A list of corresponding tests is available

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



Mechanical characteristics

- General tolerance ± 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 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.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.