

Voltage Transducer LV 100-1000/SP16

$V_{PN} = 1000 \text{ V}$

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	1000	V			
V_P	Primary voltage, measuring range	0 .. ± 1700	V			
I_{PN}	Primary nominal r.m.s. current	10	mA			
R_M	Measuring resistance	R_{Mmin}	R_{Mmax}			
				with $\pm 15 \text{ V}$	@ $\pm 1000 \text{ V}_{max}$	0
			@ $\pm 1700 \text{ V}_{max}$	0	80	Ω
		with $\pm 24 \text{ V}$	@ $\pm 1000 \text{ V}_{max}$	32	340	Ω
	@ $\pm 1700 \text{ V}_{max}$	32	175	Ω		
I_{SN}	Secondary nominal r.m.s. current	50	mA			
K_N	Conversion ratio	1000 V / 50 mA				
V_C	Supply voltage ($\pm 10 \%$)	$\pm 15 \dots 24$	V			
I_C	Current consumption	$30 + I_S$	mA			
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6 ¹⁾	kV			
		1 ²⁾	kV			

Features

- Closed loop (compensated) voltage transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0
- Primary resistor R_1 incorporated into the housing.

Special features

- $V_P = 0 \dots \pm 1700 \text{ V}$
- $V_C = \pm 15 \dots 24 (\pm 10 \%) \text{ V}$
- $T_A = -25^\circ\text{C} \dots +70^\circ\text{C}$
- Connection to secondary circuit on M5 threaded studs
- Railway equipment.

Accuracy - Dynamic performance data

X_G	Overall Accuracy @ $V_{PN}, T_A = 25^\circ\text{C}$	± 0.7	%	
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 - $25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.4	± 0.6	mA
t_r	Response time @ 90 % of V_{Pmax}	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	$^\circ\text{C}$
N	Turns ratio	10000 : 2000	
P	Total primary power loss	10	W
R_1	Primary resistance @ $T_A = 25^\circ\text{C}$	100	k Ω
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	60	Ω
m	Mass	850	g

Applications

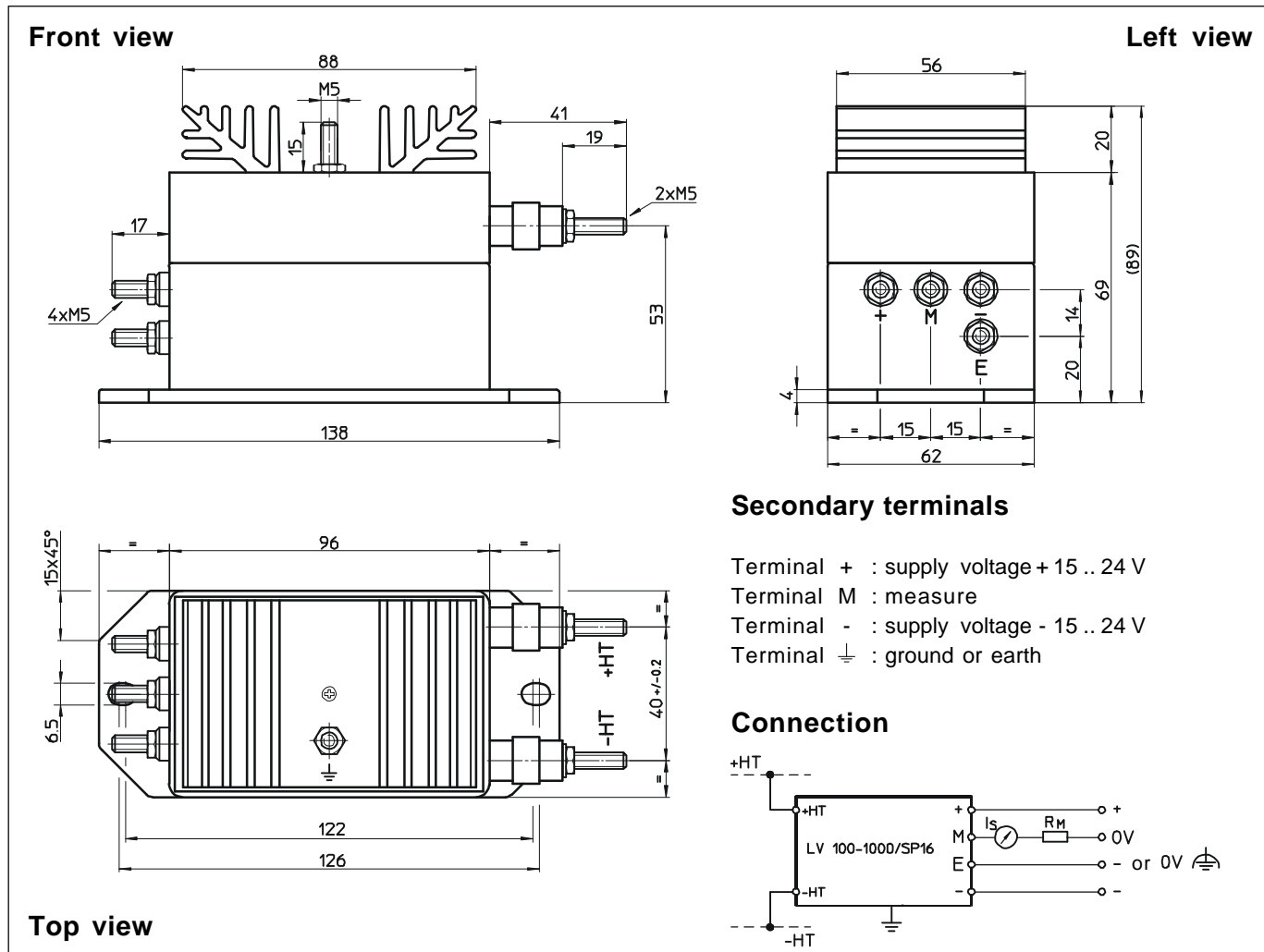
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Uninterruptible Power Supplies (UPS)
- Power supplies for welding applications
- Railway overhead line voltage measurement.

Notes : 1) Between primary and secondary + shield

2) Between secondary and shield

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Dimensions LV 100-1000/SP16 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- | | |
|----------------------------|-------------------------|
| • General tolerance | ± 0.3 mm |
| • Fastening | 2 holes Ø 6.5 mm |
| • Connection of primary | M5 threaded studs |
| • Connection of secondary | M5 threaded studs |
| • Connection to the ground | M5 threaded stud |
| • Fastening torque | 2.2 Nm or 1.62 Lb. -Ft. |

Remarks

- I_s is positive when V_p is applied on terminal +HT.
- The primary circuit of the transducer must be linked to the connections where the voltage has to be measured.