

Voltage Transducer LV 100-3500/SP2

For the electronic measurement of voltages: DC, AC, pulsed..., with galvanic separation between the primary circuit and the secondary

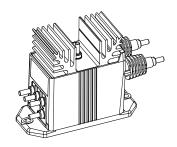


Elec	ctrical data				
V_{PN}	Primary nominal RMS	voltage	3600		V
$V_{_{\mathrm{PM}}}$ $I_{_{\mathrm{PN}}}$	Primary voltage, measuring range Primary nominal RMS current		0 ±4500 2.26		V mA
R_{M}	Measuring resistance with ±24 V	@ ±3600 V _{max} @ ±4500 V _{max}	$R_{ m Mmin}$ 0	R _{M max} 420 330	Ω
$I_{\rm SN} \ K_{\rm N}$	Secondary nominal RMS current Conversion ratio		50 3600 V	: 50 mA	mA
$U_{\rm C}$ $I_{\rm C}$	Supply voltage (+5/ -10 Current consumption	0 %)	±24 <37 (@	±24 V) + I _S	V mA

	Accuracy - Dynamic performance data			
X	Accuracy @ V_{PN} , $T_A = 25 ^{\circ}\text{C}$	±0.9		%
З	Linearity error	< 0.1		%
	-	Тур	Max	
I	Offset current @ $V_P = 0$, $T_A = 25 °C$		±0.2	mA
I	Temperature variation of I_0 –25 °C +70 °C	±0.3	±0.5	mΑ
t	Step response time to 90 % of V_{PN}	100		μs

T_{A}	Ambient operating temperature	-25 +70	°C
T_{s}	Ambient storage temperature	-40 + 85	°C
$N_{\rm P}/N_{\rm S}$	Turns ratio	36000 : 1666	
P_{P}	Total primary power loss	8.2	W
R_{P}	Resistance of primary winding @ T_A = 25 °C	1.592	$M\Omega$
R_{S}	Resistance of secondary winding @ $T_{\rm A}$ = 70 °C	44	Ω
m	Mass	790	g
	Standard	EN 50155: 1995	

$V_{PN} = 3600 \text{ V}$



Features

- Closed loop (compensated) voltage transducer using the Hall
- · Insulating plastic case recognized according to UL 94-V0
- Primary resistor incorporated within the housing.

Special features

- V_{PN} = 3600 V
- $N_{\rm p}/N_{\rm S}$ = 36000 : 1666
- $U_{\rm C}$ = ±24 (+5/ -10 %) V
- T_△ = -25 °C ... +70 °C

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- · Wide frequency bandwidth
- No insertion losses
- High immunity to external interference.

Applications

- Single or three phase inverters
- Propulsion and braking choppers
- Propulsion converters
- Auxiliary converters
- · Battery chargers.

Application domain

• Traction.

General data



Voltage Transducer LV 100-3500/SP2

Ins	Insulation coordination			
U_{d}	RMS voltage for AC insulation test, 50 Hz, 1 min	12 ¹⁾ 1 ²⁾ Min	kV kV	
$d_{\mathrm{Cp}} \ d_{\mathrm{Cl}}$	Creepage distance Clearance	164.8 47.1	mm mm	
CTI	Comparative tracking index (group I)	600	111111	

Notes: 1) Between primary and secondary + shield + heatsink

Safety



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (e.g. primary connections, power supply).

Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a build-in device, whose conducting parts must be inaccessible after installation.

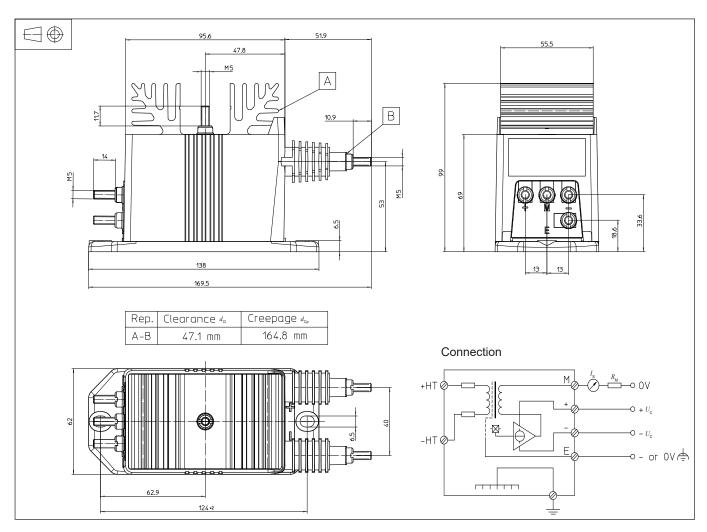
A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

²⁾ Between shield and secondary.



Dimensions LV 100-3500/SP2 (in mm)



Mechanical characteristics

- General tolerance
- Transducer fastening

Recommended fastening torque

- Connection of primary
 Recommended fastening torque
- Connection of secondary Recommended fastening torque
- Connection of ground Recommended fastening torque

±0.5 mm 2 holes Ø 6.5 mm 2 M6 steel screws 5 N⋅m M5 threaded studs 2.2 N⋅m M5 threaded studs 2.2 N⋅m

M5 threaded stud

2.2 N·m

Remarks

- $\bullet \ \ I_{\rm S}$ is positive when $V_{\rm P}$ is applied on terminal +HT.
- The primary circuit of the transducer must be linked to the connections where the voltage has to be measured.
- Installation of the transducer must be done unless otherwise specified on the datasheet, according to LEM Transducer Generic Mounting Rules. Please refer to LEM document N°ANE120504 available on our Web site: Products/Product Documentation.