

## Voltage Transducer LV 25-1200

For the electronic measurement of voltages: DC, AC, pulsed..., with galvanic isolation between the primary circuit (high voltage) and the secondary circuit (electronic circuit).

$$V_{PN} = 1200 \text{ V}$$



### Electrical data

$V_{PN}$	Primary nominal voltage rms	1200	V			
$V_{PM}$	Primary voltage, measuring range	0 .. $\pm 1800$	V			
$I_{PN}$	Primary nominal current rms	6.7	mA			
$R_M$	Measuring resistance	$R_{M \min}$	$R_{M \max}$			
				with $\pm 12 \text{ V}$	@ $\pm 1200 \text{ V}_{\max}$	30
			@ $\pm 1800 \text{ V}_{\max}$	30	100	$\Omega$
		with $\pm 15 \text{ V}$	@ $\pm 1200 \text{ V}_{\max}$	100	320	$\Omega$
			@ $\pm 1800 \text{ V}_{\max}$	100	180	$\Omega$
$I_{SN}$	Secondary nominal current rms	25	mA			
$K_N$	Conversion ratio	1200 V : 25 mA				
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 12 \dots 15$	V			
$I_C$	Current consumption	10 (@ $\pm 15 \text{ V}$ ) + $I_S$	mA			

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $V_{PN}$ , $T_A = 25^\circ\text{C}$	$\pm 0.8$	%
$\epsilon_L$	Linearity error	$< 0.2$	%
$I_O$	Offset current @ $I_P = 0$ , $T_A = 25^\circ\text{C}$	Typ	$\pm 0.15$ mA
		Max	$\pm 0.15$ mA
$I_{OT}$	Temperature variation of $I_O$	-25°C .. +25°C	$\pm 0.1$ mA
		+25°C .. +70°C	$\pm 0.1$ mA
$t_r$	Response time to 90 % of $V_{PN}$ step	60	$\mu\text{s}$

### General data

$T_A$	Ambient operating temperature	-25 .. +70	$^\circ\text{C}$
$T_S$	Ambient storage temperature	-40 .. +85	$^\circ\text{C}$
$N_P$	Turns ratio	3700 : 1000	
$P$	Total primary power loss	8	W
$R_1$	Primary resistance @ $T_A = 25^\circ\text{C}$	180	k $\Omega$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	110	$\Omega$
$m$	Mass	60	g
	Standards	EN 50178: 1997	

### Features

- Closed loop (compensated) voltage transducer using the Hall effect
- Isolated plastic case recognized according to UL 94-V0
- Primary resistor  $R_1$  and transducer mounted on printed circuit board 128 x 60 mm.

### Advantages

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

### Applications

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

### Application domain

- Industrial.

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### Isolation characteristics

$V_d$	Rms voltage for AC isolation test <sup>1)</sup> , 50 Hz, 1 min	4.1	kV
$\hat{V}_w$	Impulse withstand voltage 1.2/50 $\mu$ s	12	kV
		Min	
<b>dCp</b>	Creepage distance	13.8	mm
<b>dCI</b>	Clearance distance	13.8	mm
<b>CTI</b>	Comparative Tracking Index (group III b)	< 175	

Note: <sup>1)</sup> Between primary and secondary.

### Applications examples

According to **EN 50178** and **IEC 61010-1** standards and following conditions:

- Over voltage category OV 3
- Pollution degree PD2
- Non-uniform field

	<b>EN 50178</b>	<b>IEC 61010-1</b>
<b>dCp, dCI, <math>\hat{V}_w</math></b>	Rated isolation voltage	Nominal voltage
Single isolation	1500 V	2500 V
Reinforced isolation	600 V	600 V

### 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 (eg. primary busbar, power supply).

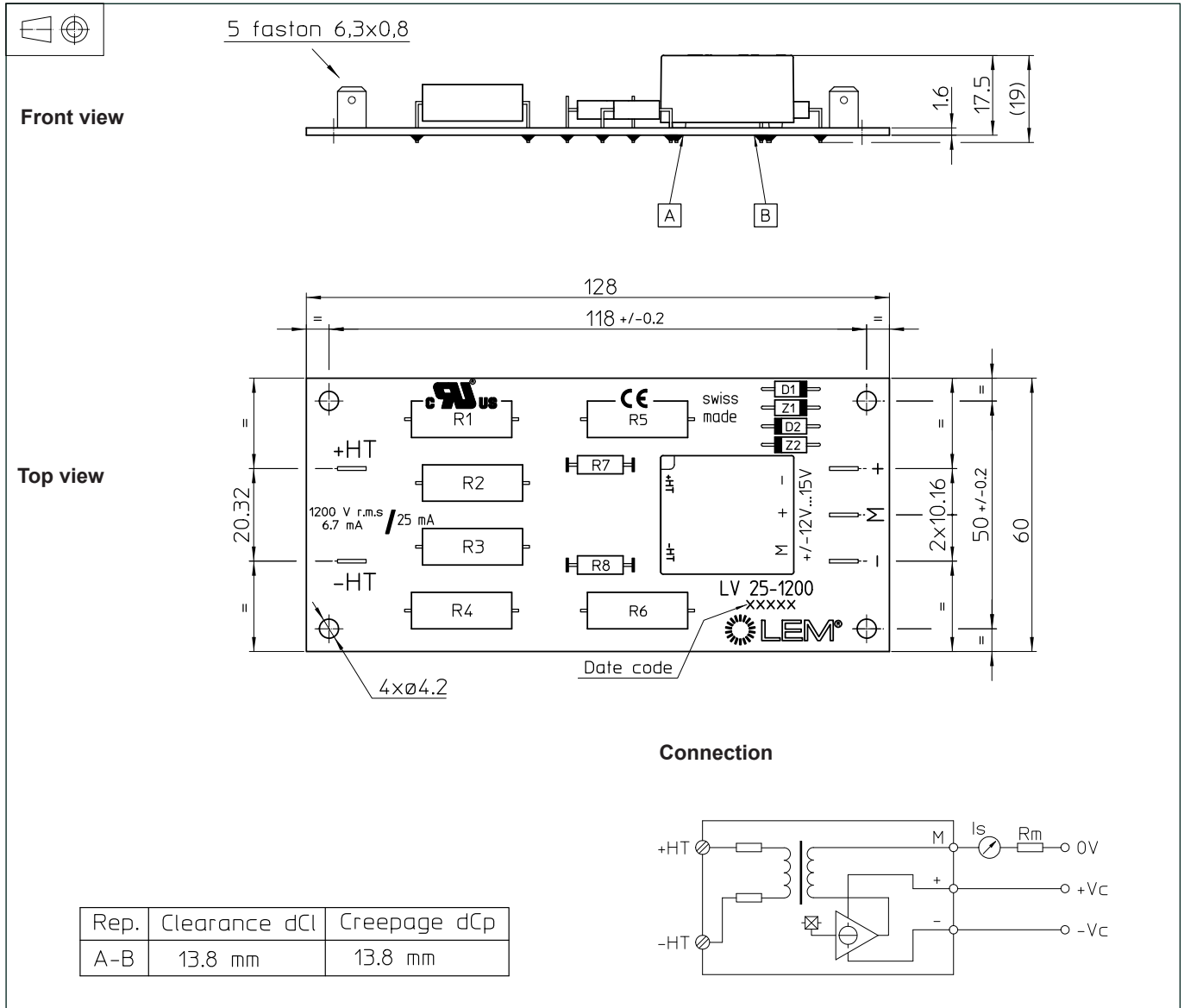
Ignoring this warning can lead to injury and/or cause serious damage.

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.

## Dimensions LV 25-1200 (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 0.3$  mm
- Transducer fastening 4 holes  $\varnothing 4.2$  mm  
The mounting must be done on a adapted holder with four M4 screws
- Connection of primary Faston 6.3 x 0.8 mm
- Connection of secondary Faston 6.3 x 0.8 mm

### 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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.