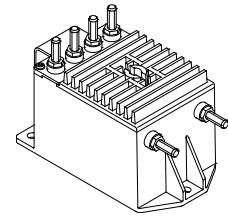


## Voltage Transducer CV 3-200/SP6

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



$$V_{PN} = 100 \text{ V}$$



### Electrical data

$V_{PN}$	Primary nominal rms voltage	100	V
$V_{PM}$	Primary voltage, measuring range	0 .. ±150	V
$V_S$	(Analog) secondary voltage @ $V_{P,max}$	5	V
$K_N$	Conversion ratio	120 V/5 V	
$R_L$	Load resistance	≥1	kΩ
$C_L$	Capacitive loading	≤5	nF
$U_C$	Supply voltage (±10 %)	±15 .. 24	V
$I_C$	Current consumption (@ ±15 V)	35 + $V_S / R_L$	mA
	(@ ±24 V)	40 + $V_S / R_L$	mA

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $V_{P,max}$	$T_A = 25 \text{ °C}$	Max	
		-25 °C .. +75 °C	±0.25	%
$V_O$	Offset voltage @ $V_p = 0$	$T_A = 25 \text{ °C}$	±0.60	%
		-25 °C .. +75 °C	±5.00	mV
$t_r$	Step response time <sup>1)</sup> to 90 % of $V_{PN}$		±10.0	mV
$dv/dt$	$dv/dt$ accurately followed		0.3	μs
$BW$	Frequency bandwidth (-1 dB) @ $V_{PN}$		200	V/μs
			DC .. 700	kHz

### General data

$T_A$	Ambient operating temperature	-25 .. +75	°C
$T_S$	Ambient storage temperature	-40 .. +85	°C
$P_P$	Total primary power loss	1.6	W
$R_1$	Primary resistance	6.4	kΩ
$m$	Mass	560	g
	Standard	EN 50155: 2001	

Note: <sup>1)</sup> With a  $dv/dt$  of 200 V/μs.

### Features

- Closed loop (compensated) voltage transducer
- Insulating plastic case recognized according to UL 94-V0
- Patent pending.

### Special features

- $V_{PM} = 0 \dots \pm 150 \text{ V}$
- $K_N = 120 \text{ V} : 5 \text{ V}$
- $U_C = \pm 15 \dots 24 (\pm 10 \%) \text{ V}$
- $U_d = 2.5 \text{ kV}$
- $T_A = -25 \text{ °C} \dots +75 \text{ °C}$
- VRT Burn-in.

### Advantages

- Excellent accuracy
- Very good linearity
- Low thermal drift
- Low response time
- High bandwidth
- High immunity to external interference
- Low disturbance in common mode.

### Applications

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

### Application Domain

- Traction.

## Voltage Transducer CV 3-200/SP6

### Insulation coordination

$U_d$	Rms voltage for AC insulation test, 50 Hz, 1 min	2.5	kV
$U_e$	Partial discharge extinction rms voltage @ 10 pC	2	kV
		Min	
$d_{cp}$	Creepage distance	83.8	mm
$d_{cl}$	Clearance	76.4	mm
$CTI$	Comparative Tracking Index (group I)	600	

### 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 connections, power supply).

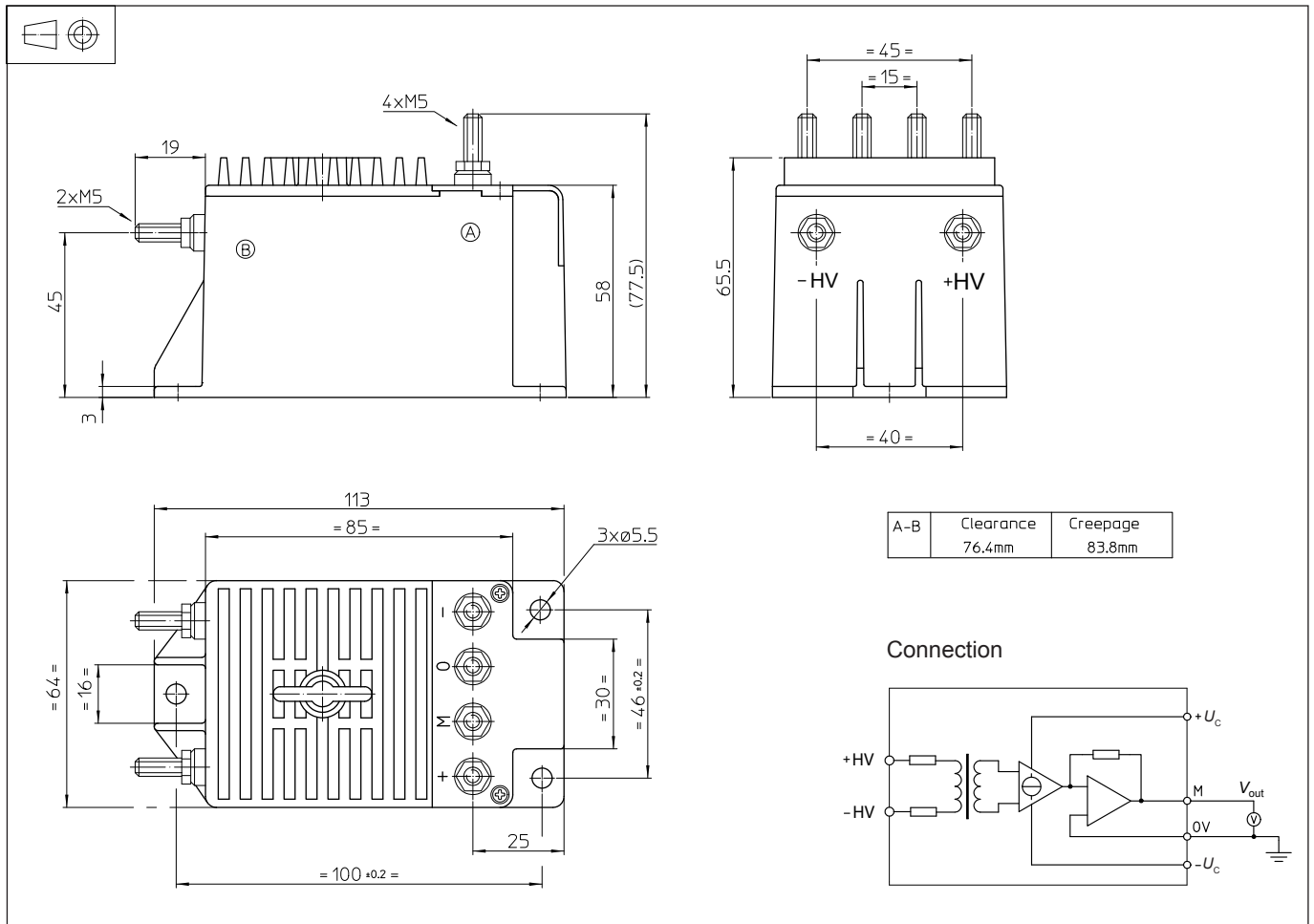
Ignoring this warning can lead to injury and/or cause serious damage.

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.

## Dimensions CV 3-200/SP6 (in mm)



## Mechanical characteristics

- General tolerance  $\pm 0.3$  mm
- Transducer fastening
  - 3 holes  $\varnothing$  5.5 mm
  - 3 M5 steel screws
- Recommended fastening torque 3.8 N·m
- Connection of primary M5 threaded studs
- Connection of secondary M5 threaded studs
- Recommended fastening torque 2.2 N·m

## Remarks

- $V_s$  is positive when  $V_p$  is applied on terminal +HV.
- CEM tested with a shielded secondary cable, shield connected to 0 V at both ends, or disconnected. 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](#).