

## Voltage Transducer CV 3-1000

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



RoHS

$$V_{PN} = 700 \text{ V}$$



### Electrical data

$V_{PN}$	Primary nominal rms voltage	700	V
$V_{PM}$	Primary voltage, measuring range	0 .. $\pm 1000$	V
$V_S$	(Analog) secondary voltage @ $V_{P \max}$	10	V
$K_N$	Conversion ratio	1000 V : 10 V	
$R_L$	Load resistance	$\geq 1$	k $\Omega$
$C_L$	Capacitive loading	$\leq 5$	nF
$U_C$	Supply voltage ( $\pm 5\%$ )	$\pm 15$	V
$I_C$	Current consumption	$32 + V_S / R_L$	mA

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $V_{P \max}$	$T_A = 25^\circ\text{C}$ - 40 .. + 85 $^\circ\text{C}$	Max $\pm 0.2$ $\pm 0.6$	% %
$V_O$	Offset voltage @ $V_P = 0$	$T_A = 25^\circ\text{C}$ - 40 .. + 85 $^\circ\text{C}$	$\pm 5$ $\pm 13$	mV mV
$t_r$	Step response time <sup>1)</sup> to 90 % of $V_{PN}$		0.3	$\mu\text{s}$
$dv/dt$	$dv/dt$ accurately followed		800	V/ $\mu\text{s}$
$BW$	Frequency bandwidth (- 1 dB) @ 50 % of $V_{PN}$		DC .. 500	kHz

### General data

$T_A$	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 45 .. + 90	$^\circ\text{C}$
$P_P$	Total primary power loss	3.1	W
$R_1$	Primary resistance	160	k $\Omega$
$m$	Mass	560	g
	Standard	EN 50155: 1995	

Note: <sup>1)</sup> With a  $dv/dt$  of 800 V/ $\mu\text{s}$ .

### Features

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

### 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 inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

### Application Domain

- Traction.

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### Isolation characteristic

$U_d$	Rms voltage for AC insulation test, 50 Hz, 1 min	6	kV
$U_e$	Partial discharge extinction rms voltage @ 10 pC	2	kV
		Min	
$d_{Cp}$	Creepage distance	83.80	mm
$d_{Cl}$	Clearance	76.40	mm
$CTI$	Comparative Tracking Index (group I)	600	

### Safety

This transducer must be used in limited-energy secondary circuits according to IEC 61010-1.



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).

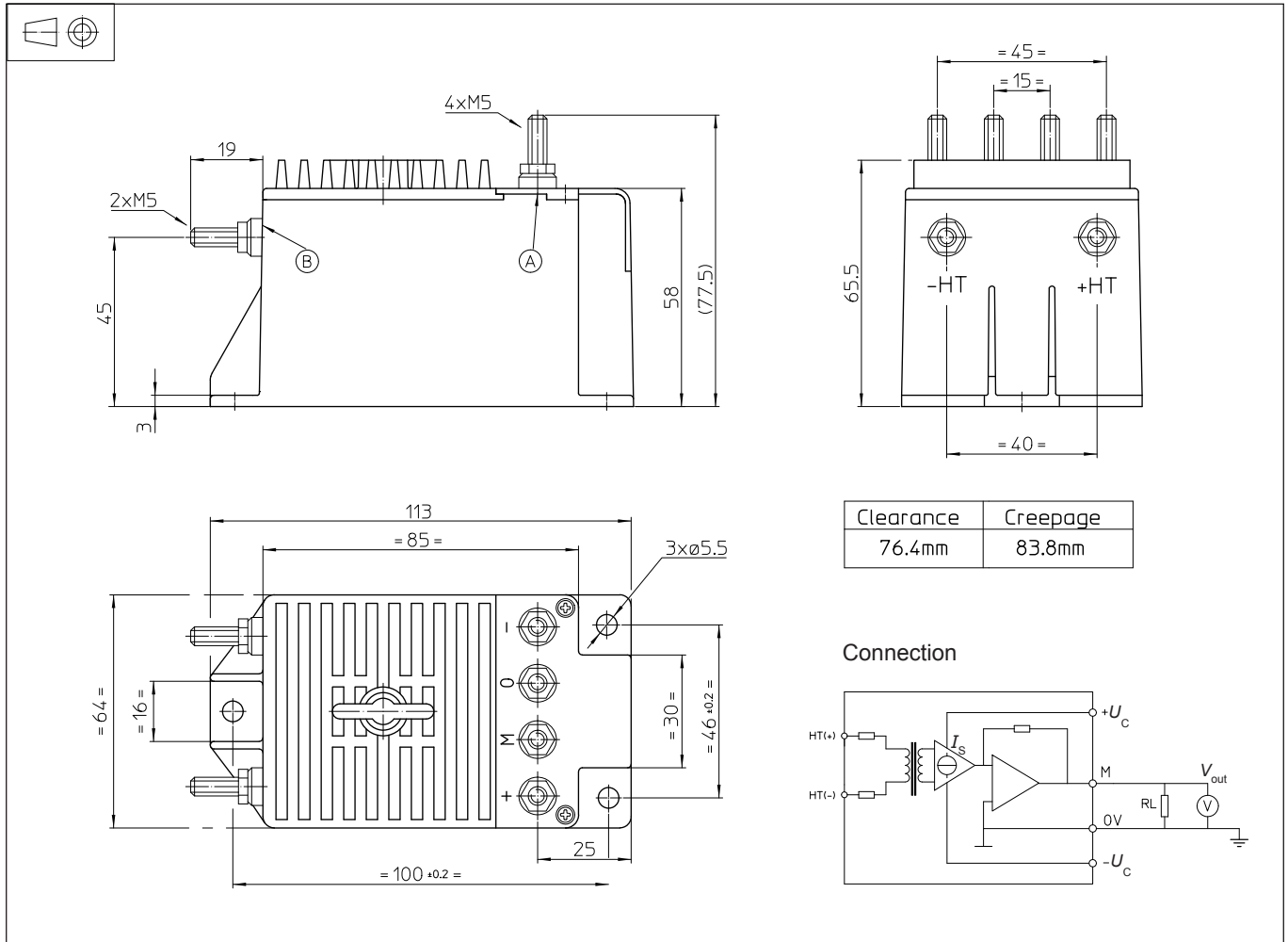
Ignoring this warning can lead to injury and/or cause serious damage.

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 CV 3-1000 (in mm)



### Mechanical characteristics

- General tolerance  $\pm 0.3$  mm
- Transducer fastening
  - 3 M5 steel screws
  - Recommended fastening torque 3.8 N·m
- Connection of primary 2 M5 threaded studs
- Connection of secondary 4 M5 threaded studs
  - Recommended fastening torque 2.2 N·m

### Remarks

- $V_s$  is positive when  $V_p$  is applied on terminal +HT.
- CEM tested with a shielded secondary cable, shield connected to 0 V at both ends, or disconnected.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.