

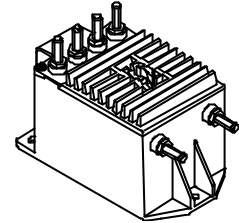
## Voltage Transducer CV 3-200/SP6

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

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).



0705



### Electrical data

$V_{PN}$	Primary nominal voltage rms	100	V
$V_{PM}$	Primary voltage, measuring range	0 .. $\pm 150$	V
$V_S$	(Analog) secondary voltage @ $V_{P \text{ max}}$	5	V
$K_N$	Conversion ratio	120 V/5 V	
$R_L$	Load resistance	$\geq 1$	k $\Omega$
$C_L$	Capacitive loading	$\leq 5$	nF
$V_C$	Supply voltage ( $\pm 10\%$ )	$\pm 15 \dots 24$	V
$I_C$	Current consumption (@ $\pm 15 \text{ V}$ )	$35 + V_S/R_L$	mA
	(@ $\pm 24 \text{ V}$ )	$40 + V_S/R_L$	mA

### Features

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

### Special feature

- $V_p = 0 \dots \pm 150 \text{ V}$
- $K_N = 120 \text{ V} : 5 \text{ V}$
- $V_C = \pm 15 \dots 24 (\pm 10\%) \text{ V}$
- $V_d = 2.5 \text{ kV}$
- $T_A = -25^\circ\text{C} \dots +75^\circ\text{C}$
- VRT Burn-in.

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $V_{P \text{ max}}$	Maxi	
	$T_A = 25^\circ\text{C}$	$\pm 0.25$	%
	$-25^\circ\text{C} \dots +75^\circ\text{C}$	$\pm 0.60$	%
$V_O$	Offset voltage @ $V_p = 0$	$T_A = 25^\circ\text{C}$	$\pm 5.00$ mV
	$-25^\circ\text{C} \dots +75^\circ\text{C}$	$\pm 10.0$	mV
$t_r$	Response time <sup>1)</sup> to 90 % of $V_{PN}$ step	0.3	$\mu\text{s}$
$dv/dt$	dv/dt accurately followed	200	V/ $\mu\text{s}$
$BW$	Frequency bandwidth (-1 dB) @ $V_{PN}$	DC .. 700	kHz

### Advantages

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

### General data

$T_A$	Ambient operating temperature	$-25 \dots +75$	$^\circ\text{C}$
$T_S$	Ambient storage temperature	$-40 \dots +85$	$^\circ\text{C}$
$P$	Total primary power loss	1.6	W
$R_1$	Primary resistance	6.4	k $\Omega$
$m$	Mass	560	kg
	Standards	EN 50155: 2001	

### Applications

- Single or three phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

### Application Domain

- Traction.

Note: <sup>1)</sup> With a dv/dt of 200 V/ $\mu\text{s}$ .

## Voltage transducer CV 3-200/SP6

### Isolation characteristics

$V_d$	Rms voltage for AC isolation test, 50 Hz, 1 min	2.5	kV
$V_e$	Partial discharge extinction voltage rms for @ 10 pC	2	kV
		Mini	
<b>dCp</b>	Creepage distance	83.8	mm
<b>dCl</b>	Clearance distance	76.4	mm
<b>CTI</b>	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

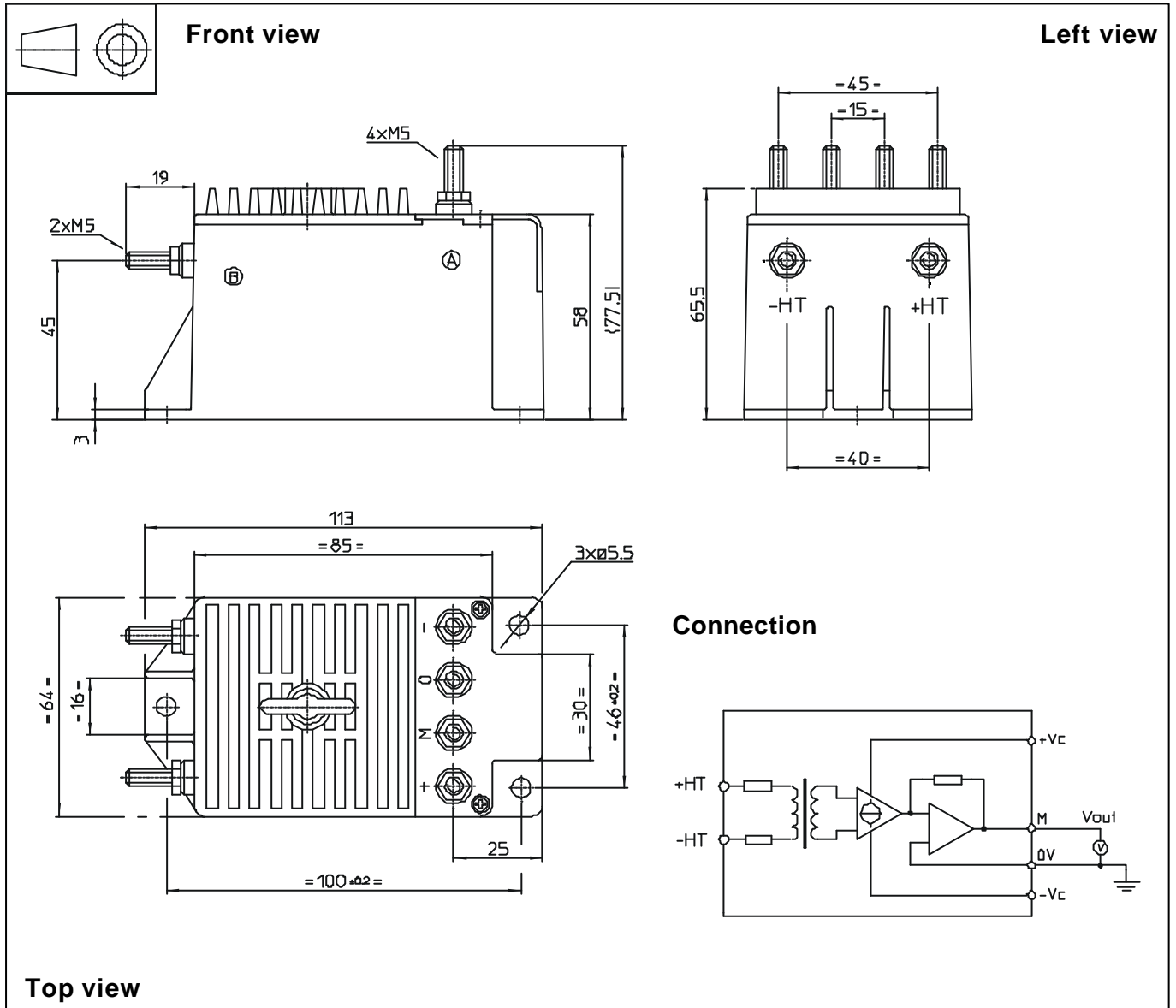
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).

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

This transducer is a built-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. 1 mm = 0.0394 inch)

**Mechanical characteristics**

- |                                |   |
|--------------------------------|---|
| • General tolerance            | ± 0.3 mm                                |
| • Transducer fastening         | 3 holes Ø 5.5 mm<br>3 x M5 steel screws |
| Recommended fastening torque   | 3.8 Nm or 2.8 Lb. - Ft.                 |
| • Connection of primary        | M5 threaded studs                       |
| • Connection of secondary      | M5 threaded studs                       |
| • Recommended fastening torque | 2.2 Nm or 1.62 Lb. -Ft.                 |

**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.