Voltage Transducer CV 3-200/SP6

V_{PN} = 100 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).

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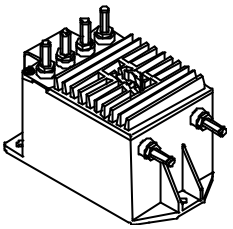

Electrical data

V_{PN}	Primary nominal voltage rms	100	V
V_{PM}	Primary voltage, measuring range	0 .. ± 150	V
V_S	(Analog) secondary voltage @ $V_{P\ maxl}$	5	V
K_N	Conversion ratio	120 V / 5 V	
R_L	Load resistance	≥ 1	kΩ
C_L	Capacitive loading	≤ 5	nF
V_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

			Maxi	
X_G	Overall accuracy @ $V_{P\ maxl}$	T_A = 25 °C	± 0.25	%
		- 25 °C .. + 75 °C	± 0.60	%
V_O	Offset voltage @ V_P = 0	T_A = 25 °C	± 5.00	mV
		- 25 °C .. + 75 °C	± 10.0	mV
t_r	Response time [1] to 90 % of V_{PN} step		0.3	µs
dv/dt	dv/dt accurately followed		200	V/µs
BW	Frequency bandwidth (- 1 dB) @ V_{PN}		DC .. 700	kHz

General data

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

Note: [1] With a dv/dt of 200 V/µs.

Features

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

Special feature

- V_P = 0 .. ± 150 V
- K_N = 120 V : 5 V
- V_C = ± 15 .. 24 (± 10 %) V
- V_d = 2.5 kV
- T_A = - 25 °C .. + 75 °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 phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

Application Domain

- Traction.

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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	
dCp	Creepage distance	83.8	mm
dCl	Clearance distance	76.4	mm
CTI	Comparative Tracking Index (Group I)	600	

Safety

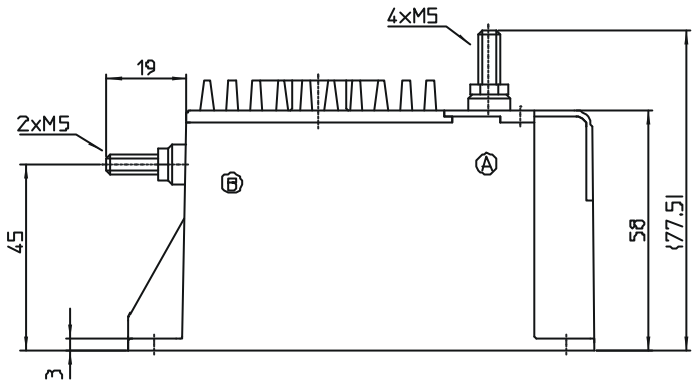
This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

Caution, risk of electrical shock

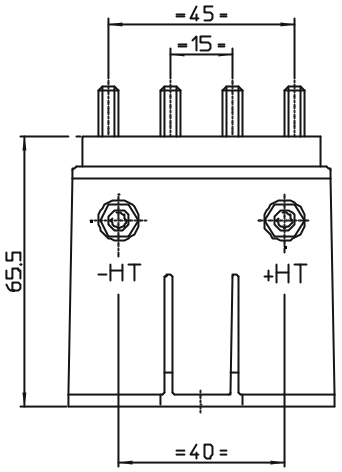
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.
A protective housing or additional shield could be used.
Main supply must be able to be disconnected.

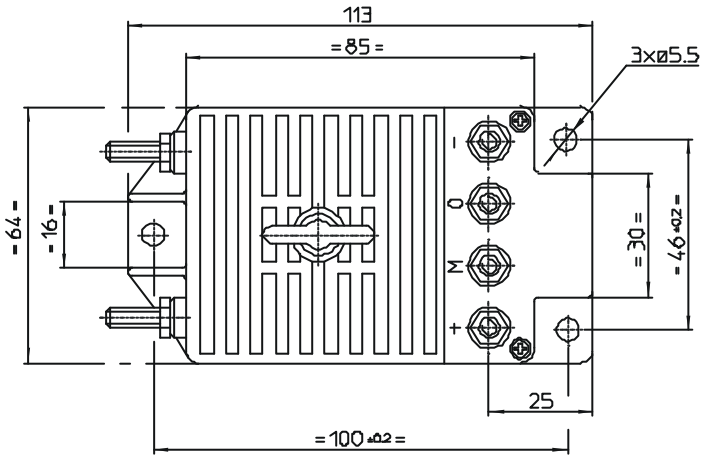
Dimensions CV 3-200/SP6 (in mm. 1 mm = 0.0394 inch)

Front view

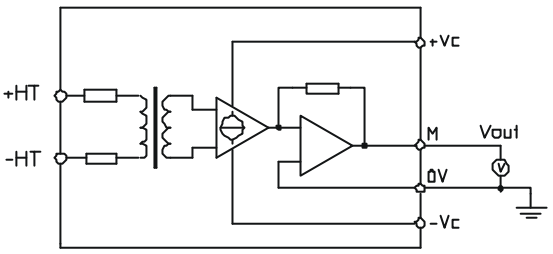


Left view





Connection



Top view

Mechanical characteristics

• General tolerance	± 0.3 mm
• Transducer fastening	3 holes ∅ 5.5 mm
	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

- $\mathbf{V}_S$ is positive when $\mathbf{V}_P$ is applied on terminal +HT.
- CEM tested with a shielded secondary cable. Shield connected to 0 V at both ends, or disconnected.