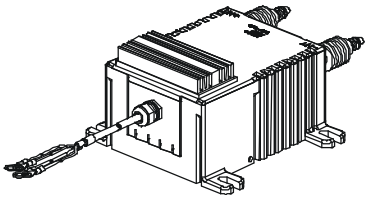
Voltage Transducer CV 4-4000/SP4

V_{PN} = 2800 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).



Electrical data

V_{PN}	Primary nominal voltage rms		2800		V
V_{PM}	Primary voltage, measuring range		0 .. ± 4000		V
I_{SN}	Secondary nominal current rms @ V_{PN}		70		mA
K_N	Conversion ratio		2800 V / 70 mA		
R_M	Measuring resistance		$R_{M\ mini}$	$R_{M\ maxi}$	
	with ± 24 V	@ ± 2800 V_{maxi}	50	100	Ω
		@ ± 4000 V_{maxi}	50	70	Ω
V_C	Supply voltage (± 10 %)		± 24		V
I_C	Current consumption		50 + I_S		mA

Accuracy - Dynamic performance data

			Max	
X_G	Overall accuracy @ $V_{P\ max}$	T_A = 25°C	± 0.40	%
		- 40°C .. + 70°C	± 1.00	%
I_O	Offset current @ V_P = 0	T_A = 25°C	± 0.10	mA
		- 40°C .. + 70°C	± 0.25	mA
t_r	Response time [1] to 90 % of V_{PN} step		≅ 50	µs
BW	Frequency bandwidth (- 3 dB) @ 50 % of V_{PN}		DC .. 6	kHz

General data

T_A	Ambient operating temperature	- 40 .. + 70	°C
T_S	Ambient storage temperature	- 50 .. + 85	°C
P	Total primary power loss @ V_{PN}	2.8	W
R_1	Primary resistance	2.8	MΩ
m	Mass	750	g
	Standards	EN 50155: 1995	

Note: [1] With a dv/dt of 1000 V/µs.

Features

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

Special features

- I_{SN} = 70 mA
- V_C = ± 24 (± 10 %) V
- X_G = ± 0.40 %
- T_A = - 40°C .. + 70°C
- Connection to secondary on M5 ring tongue crimps.

Advantages

- Excellent accuracy
- Very good linearity
- Low thermal drift.

Applications

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

Applications Domain

- Traction.

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Isolation characteristics

$\mathbf{V_d}$	Rms voltage for AC isolation test, 50/60 Hz, 1 mn	9.5	kV
$\mathbf{V_e}$	Partial discharge extinction voltage rms @ 10pC	3.75 Min	kV
dCp	Creepage distance	185.1	mm
dCl	Clearance distance	118.5	mm
CTI	Comparative Tracking Index (Group I)	600	

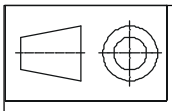
Safety

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.

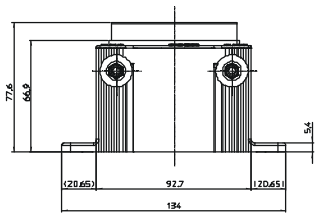
Caution, risk of electrical shock

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.

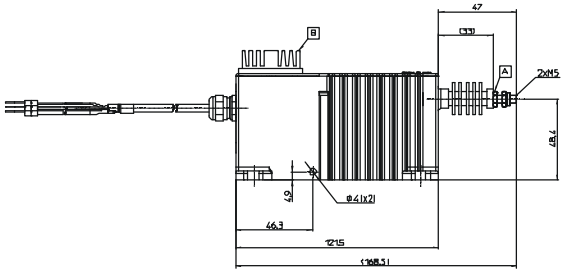
Dimensions CV 4-4000/SP4 (in mm. 1 mm = 0.0394 inch)



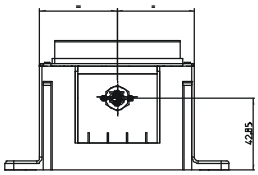
Right view



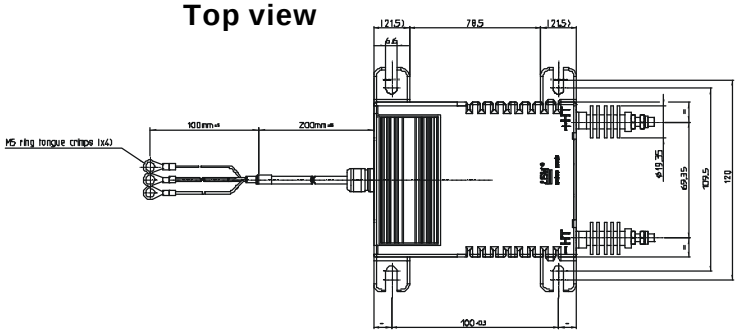
Front view



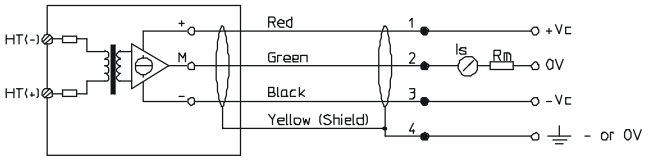
Left view



Top view



Connection



Mechanical characteristics

• General tolerance	± 0.5 mm
• Fastening of transducer	4 slots ∅ 6.6 mm 4 steel screws M6
Recommended fastening torque	5 Nm or 3.7 Lb. -Ft.
• Connection of primary	M5 threaded studs
Recommended fastening torque	2.2 Nm or 1.62 Lb. -Ft.
• Connection of secondary	4 M5 ring tongue crimps

Remark

- $\mathbf{I}_S$ is positive when $\mathbf{V}_P$ is applied on terminal +HT.