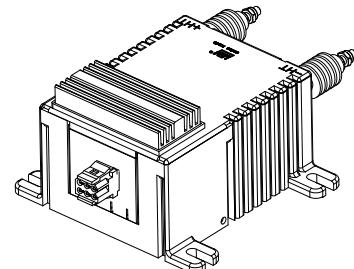


# Voltage Transducer CV 4-75/SP1

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



$U_{PN} = 75 V$



## Electrical data

$U_{PN}$	Primary nominal RMS voltage	75	V
$U_{PM}$	Primary voltage, measuring range	0 ... $\pm 200$	V
$\hat{U}_P$	Peak primary permanent voltage (not measurable)	900	V
$I_{SN}$	Secondary nominal RMS current @ $U_{PN}$	20	mA
$N_P/N_S$	Turns ratio	75 V / 20 mA	
$R_M$	Measuring resistance	$R_{M\min}$ $R_{M\max}$	
	$U_C = \pm 24 V$ $\hat{U}_P = \pm 200 V$	50   60	$\Omega$
$C_L$	Capacitive loading	$\leq 5$	nF
$U_C$	Supply voltage ( $\pm 5\%$ )	$\pm 24$	V
$I_C$	Current consumption	$50 + I_S$	mA

## Accuracy - Dynamic performance data

		Max	
$\varepsilon_{tot}$	Total error @ $U_{PN}$ , $T_A = 25^\circ C$ $-25^\circ C \dots +50^\circ C$	$\pm 0.8$ $\pm 1.7$	%
$I_O$	Offset current @ $U_P = 0$ , $T_A = 25^\circ C$ $-25^\circ C \dots +50^\circ C$	$\pm 0.1$ $\pm 0.2$	mA
$t_{D90}$	Delay time to 90 % of the final output value for $U_{PN}$ step <sup>1)</sup> $\approx 50$		$\mu s$
$BW$	Frequency bandwidth (-3 dB) @ 50 % $U_{PN}$	0 ... 12	kHz

## General data

$T_A$	Ambient operating temperature	-25 ... +50	°C
$T_{A\text{st}}$	Ambient storage temperature	-40 ... +70	°C
$P_P$	Total primary power loss	0.1	W
$\hat{P}_P$	Primary power loss overload capability @ 900 V	8.5	W
$R_P$	Resistance of primary (winding)	97	k $\Omega$
$m$	Mass	660	g
	Standards <sup>2)</sup>	EN 50155: 2007 EN 50121-3-2: 2016	

Notes: <sup>1)</sup> For a  $dv/dt = 800 V/\mu s$ .

<sup>2)</sup> Deviation of the offset during the test IEC 61000-4-3 between 100 to 200 MHz.

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### Insulation coordination

$U_d$	RMS voltage for AC insulation test, 50 Hz, 1 min	9	kV
$U_t$	Partial discharge RMS test voltage ( $q_m < 10$ pC)	2	kV
$d_{cp}$	Creepage distance	185.1	mm
$d_{cl}$	Clearance	118.5	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 (e.g. primary connections, power supply).

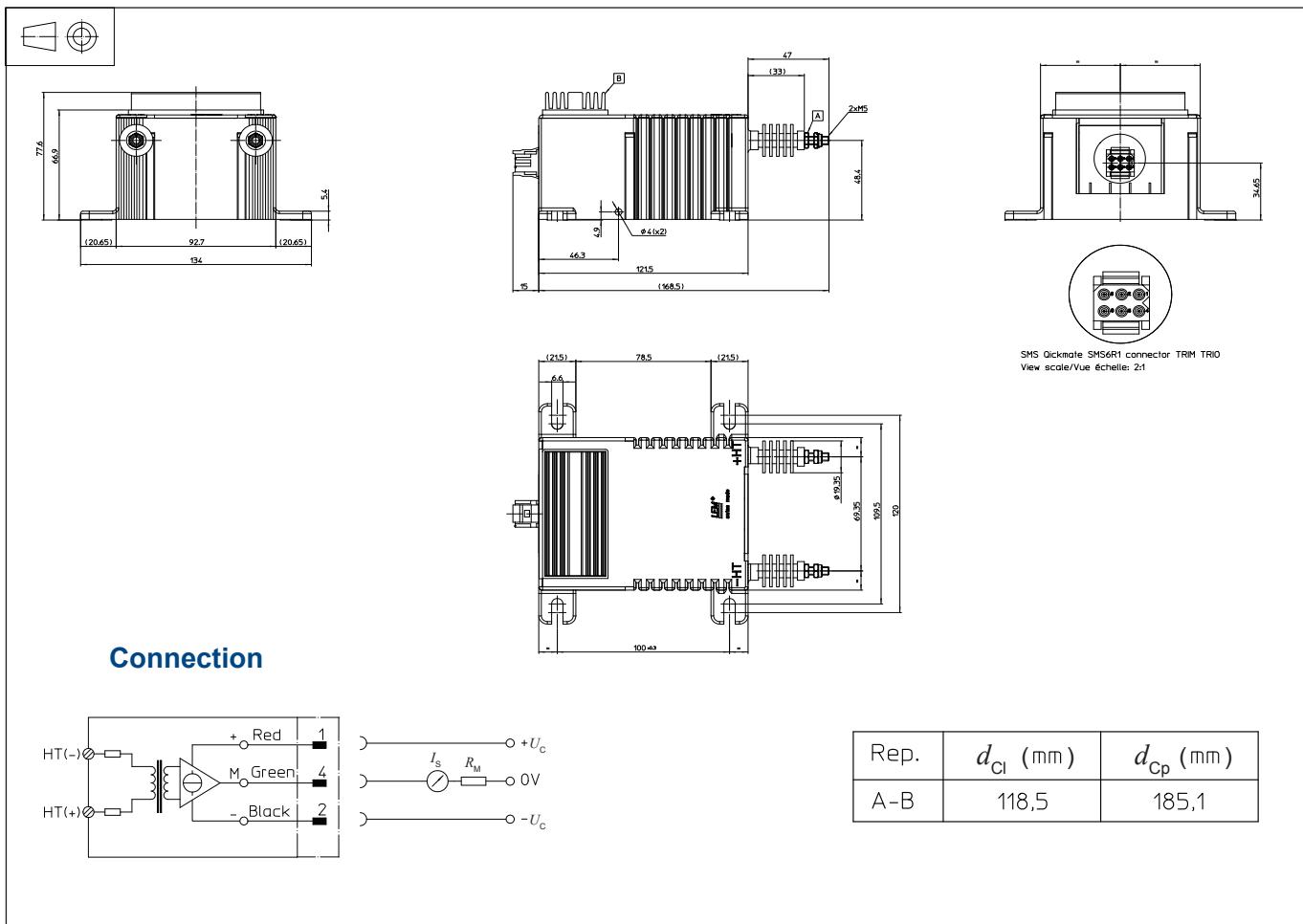
Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a build-in device, whose conducting parts must be inaccessible after installation.

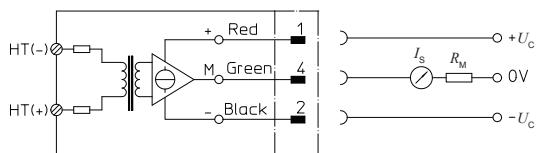
A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

## Dimensions CV 4-75/SP1 (in mm)



## Connection



Rep.	$d_{Cl}$ (mm)	$d_{Cp}$ (mm)
A-B	118,5	185,1

## Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Transducer fastening 4 notches  $\varnothing 6.6$  mm
- Recommended fastening torque 4 M6 steel screws
- Connection of primary 5 N·m
- Recommended fastening torque M5 threaded studs
- Connection of secondary 2.2 N·m
- Burndy SMS6R1

## Remarks

- $I_S$  is positive when  $U_p$  is applied on terminal +HT.
- 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: <https://www.lem.com/en/file/3137/download/>.

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