Voltage Transducer CV 3-100/SP3

V_{PN} = 85 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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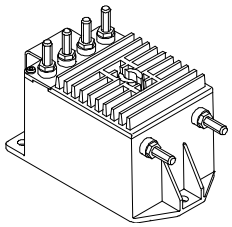


Electrical data

V_{PN}	Primary nominal r.m.s. voltage	85	V
V_P	Primary voltage, measuring range	0 .. ± 130	V
V_S	Secondary Analog voltage @ $V_{P\ max}$	6.5	V
K_N	Conversion ratio	100 V / 5 V	
R_L	Load resistance	≥ 1	kΩ
C_L	Capacitive loading	≤ 5	nF
V_C	Supply voltage (± 10 %)	± 15	V
I_C	Current consumption	32 + V_S / R_L	mA

Accuracy - Dynamic performance data

			Typ	Max	
X_G	Overall accuracy @ $V_{P\ max}$	T_A = 25°C		± 0.2	%
		- 25°C .. + 75°C		± 0.5	%
		- 40°C .. + 75°C		± 0.6	%
V_O	Offset voltage @ V_P = 0	T_A = 25°C		± 5	mV
		- 25°C .. + 75°C		± 10	mV
		- 40°C .. + 75°C		± 18	mV
t_r	Response time [1] @ 90 % of $V_{P\ max}$		0.4		µs
dv/dt	dv/dt accurately followed		160		V/µs
f	Frequency bandwidth (- 1 dB) @ of V_{PN}		DC .. 700		kHz

General data

T_A	Ambient operating temperature	- 40 .. + 75	°C
T_S	Ambient storage temperature	- 40 .. + 85	°C
P	Total primary power loss	3.1	W
R_1	Primary resistance	6.4	kΩ
m	Mass	550	g
	Standards	EN 50155 : 1995	

Note: [1] With a dv/dt of 160 V/µs.

Features

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

Special features

- V_{PN} = 85 V
- V_P = 0 .. ± 130 V
- T_A = - 40°C .. + 75°C
- Burn-in
- Railway equipment.

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

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Uninterruptible Power Supplies (UPS)
- Power supplies for welding applications
- Railway overhead line voltage measurement.

Application Domain

- Traction.

Current Transducer CV 3-100/SP3

Isolation characteristics

$\mathbf{V_d}$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV
$\mathbf{V_e}$	R.m.s. voltage for partial discharge extinction @ 10pC	2	kV
dCp	Creepage distance	83.8	mm
dCl	Clearance distance	76.4	mm
CTI	Comparative Tracking Index (Group I)	600	

Safety

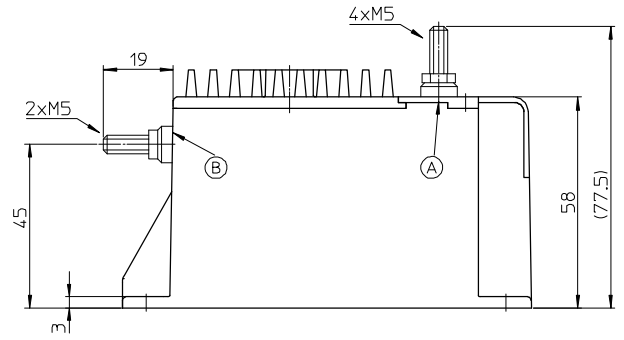
This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.

Caution, risk of electrical shock

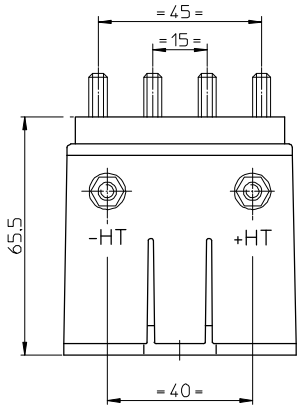
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.
A protective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

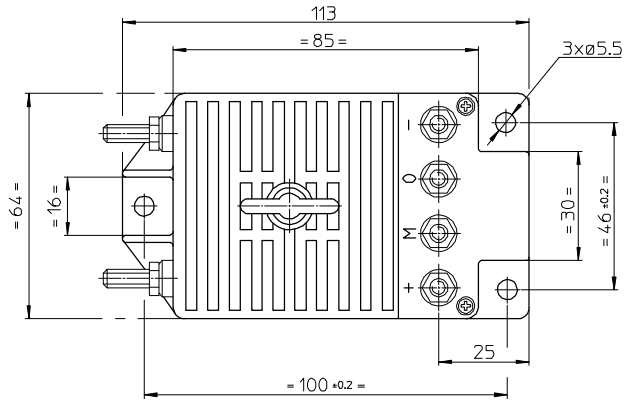
Dimensions CV 3-100/SP3 (in mm. 1 mm = 0.0394 inch)

Front view



Left view



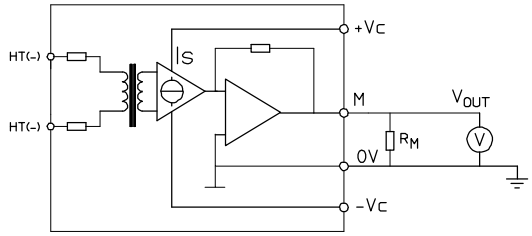


Top view

Secondary terminals

Terminal + : supply voltage + 15 V
Terminal M : measure
Terminal 0 : 0 V
Terminal - : supply voltage - 15 V

Connection



Mechanical characteristics

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