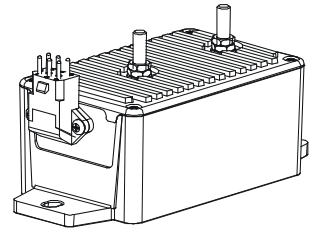


## Voltage Transducer AV 100-1000/SP1

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).



**$V_{PN} = 1000 \text{ V}$**



### Electrical data

$V_{PN}$	Primary nominal voltage rms	1000	V		
$V_{PM\max}$	Primary voltage, measuring range	$\pm 1500$ <sup>1)</sup>	V		
$V_P$	Peak primary voltage	3000 (1s/h)	V		
$R_P$	Primary coil resistance	11.9 M	$\Omega$		
$R_M$	Measuring resistance	$R_{M\min}$	$R_{M\max}$		
		@ $V_C = 11.4 \text{ V}$	0	47	$\Omega$
		@ $V_C = 22.8 \text{ V}$	0	184	$\Omega$
$I_{SN}$	Secondary nominal current rms	50	mA		
$V_C$	Supply voltage ( $\pm 5 \%$ )	DC $\pm 12 \dots 24$	V		
$I_C$	Current consumption	$50 + I_S$	mA		

### Features

- Isolated plastic case recognized according to UL 94-V0
- Included primary resistor.

### Special feature

- Secondary connections on Burndy connector.

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $V_{PN}, T_A = +25^\circ \text{C}$	$\pm 0.7$	%
$X_G$	Overall accuracy @ $V_{PN}, T_A = -25 \dots +70^\circ \text{C}$	$\pm 1.5$	%
$X_G$	Overall accuracy @ $V_{PN}, T_A = -40 \dots +85^\circ \text{C}$	$\pm 1.7$	%
$\epsilon_L$	Linearity error @ $T_A = 25^\circ \text{C}$	$< 0.1$	%
$I_O$	Offset current @ $V_P = 0, T_A = 25^\circ \text{C}$	$\pm 0.15$	mA
$t_r$	Response time	$< 30$	$\mu\text{s}$
<b>BW</b>	Frequency bandwidth (-3 dB)	DC .. 11	kHz

### Advantages

- Low power
- 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	- 40 .. + 85	$^\circ \text{C}$
$T_S$	Ambient storage temperature	- 50 .. + 90	$^\circ \text{C}$
<b>m</b>	Mass Standards	380	g
		EN 50155: 2001	
		EN 50124-1: 2001	
		NFF16101/2:1988	

### Applications

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

### Application Domain

- Traction.

**Note:** <sup>1)</sup> Up to 1100 VDC 20 % of the time, 1350 Vpk 1 ms every 5 minutes & 1400 Vpk 10 ms, 10 times/year.

## Current Transducer AV 100-1000/SP1

### Isolation characteristics

$V_d$	Rms voltage for AC isolation test, 50 Hz, 1 min	5.5	kV
	Maxi Common mode voltage	$U_{HT+} + U_{HT-} \leq 4.2 \text{ kVDC}$	
	and	$ U_{HT+} - U_{HT-}  \leq V_{P,maxi}$	
$V_e$	Partial discharge extinction voltage rms @ 10 pC	2.2	kV
		Mini	
<b>dCp</b>	Creepage distance	56.7	mm
<b>dCl</b>	Clearance distance	30.4	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 following manufacturer's operating instructions.



Caution, risk of electrical shock

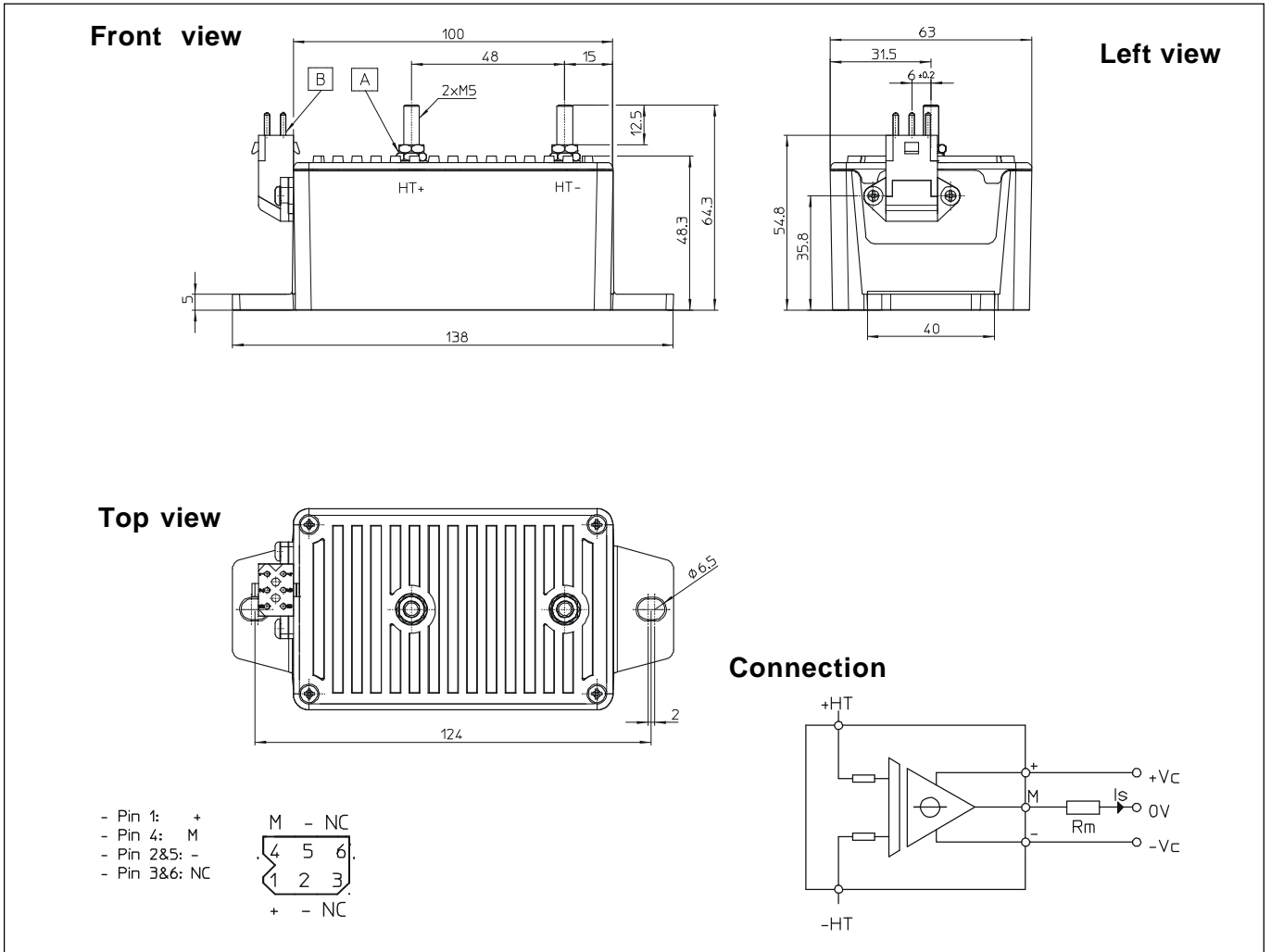
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).

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 AV 100-1000/SP1** (in mm. 1 mm = 0.0394 inch)

**Mechanical characteristics**

- General tolerance  $\pm 1$  mm
- Transducer fastening  
2 holes  $\varnothing 6.5$  mm  
2 M6 screws
- Recommended fastening torque 4 Nm or 2.95 Lb - Ft
- Fastening & connection of primary  
2 x M5 threaded studs
- Recommended fastening torque 2.2 Nm or 1.62 Lb - Ft
- Fastening & connection of secondary SMS6GE6 Burndy connector

Output connections must be made with screened cables

**Remarks**

- $I_s$  is positive when  $V_p$  is applied on terminal +HT.
- Customer marking "DTR0000023903B".