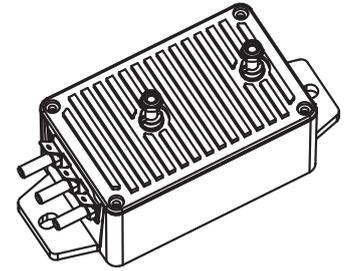


## Voltage Transducer AV 100 Series

For the electronic measurement of voltages: DC, AC, pulsed..., with galvanic isolation between the primary circuit (high voltage) and the secondary circuit (electronic circuit).



$$V_{PN} = 50.. 2000 \text{ V}$$



### Electrical data

Type	Primary nominal voltage rms $V_{PN}$ (V)	Primary Voltage, measuring range $V_{PM}$ (V)	primary coil resistance $R_p$ ( $\Omega$ )
AV 100-50	50	$\pm 75$	6M
AV 100-125	125	$\pm 187.5$	6M
AV 100-150	150	$\pm 225$	6M
AV 100-250	250	$\pm 375$	6M
AV 100-500	500	$\pm 750$	6M
AV 100-750	750	$\pm 1125$	8.9M
AV 100-1000	1000	$\pm 1500$	11.9M
AV 100-1500	1500	$\pm 2250$	17.8M
AV 100-2000	2000	$\pm 3000$ <sup>1)</sup>	17.8M

$\hat{V}_p$	Peak primary voltage <sup>2)</sup>	$2 \times V_{PM}$ (1s/h)	$V_{DC}$
$R_M$	Measuring resistance	$R_{M \min}$ $R_{M \max}$	$\Omega$
	@ $V_C = 11.4 \text{ V}$	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
$I_C$	Static Current consumption	$50 + I_s$	mA

### Features

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

### 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.

### Applications

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

### Application Domain

- Traction.

### 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	$< 30$	$\mu\text{s}$
BW	Frequency bandwidth (-3 dB)	DC..11	kHz

### General data

$T_A$	Ambient operating temperature	$-40 \dots +85$	$^\circ\text{C}$
$T_S$	Ambient storage temperature	$-50 \dots +90$	$^\circ\text{C}$
m	Mass	375	g
	Standards	EN 50155 : (2001) EN 50124-1: (2001) NFF16101/2:(1988)	

**Notes:** <sup>1)</sup> 500 ms every 60 minutes

<sup>2)</sup> AV 100-2000  $\hat{V}_p = 4500$  (1s/h).

## Voltage Transducer AV 100 Series

### Isolation characteristics

<b>V<sub>d</sub></b>	Rms voltage for AC isolation test <sup>1)</sup> , 50 Hz, 1 min		
	AV 100-50 to AV 100-500	3.3	KV
	AV 100-750	4.3	KV
	AV 100-1000	5.5	KV
	AV 100-1500 and AV 100-2000	6.5	KV
<b>V<sub>e</sub></b>	Max Common mode voltage	$U_{HT+} + U_{HT-} \leq 4.2kVDC$	
	and	$ U_{HT+} - U_{HT-}  \leq V_{PM}$	
<b>V<sub>e</sub></b>	Partial discharge extinction voltage rms @ 10 pc		
	AV100-50 to AV 100-750	1.1	KV
	AV100-1000 to AV100-2000	2.2	KV
		min	
<b>dCp</b>	Creepage distance	59	mm
<b>dCl</b>	Clearance distance	30	mm
<b>CTI</b>	Comparative tracking index (Group II)	600	

**Note :** <sup>1)</sup> Between primary and secondary.

## 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).

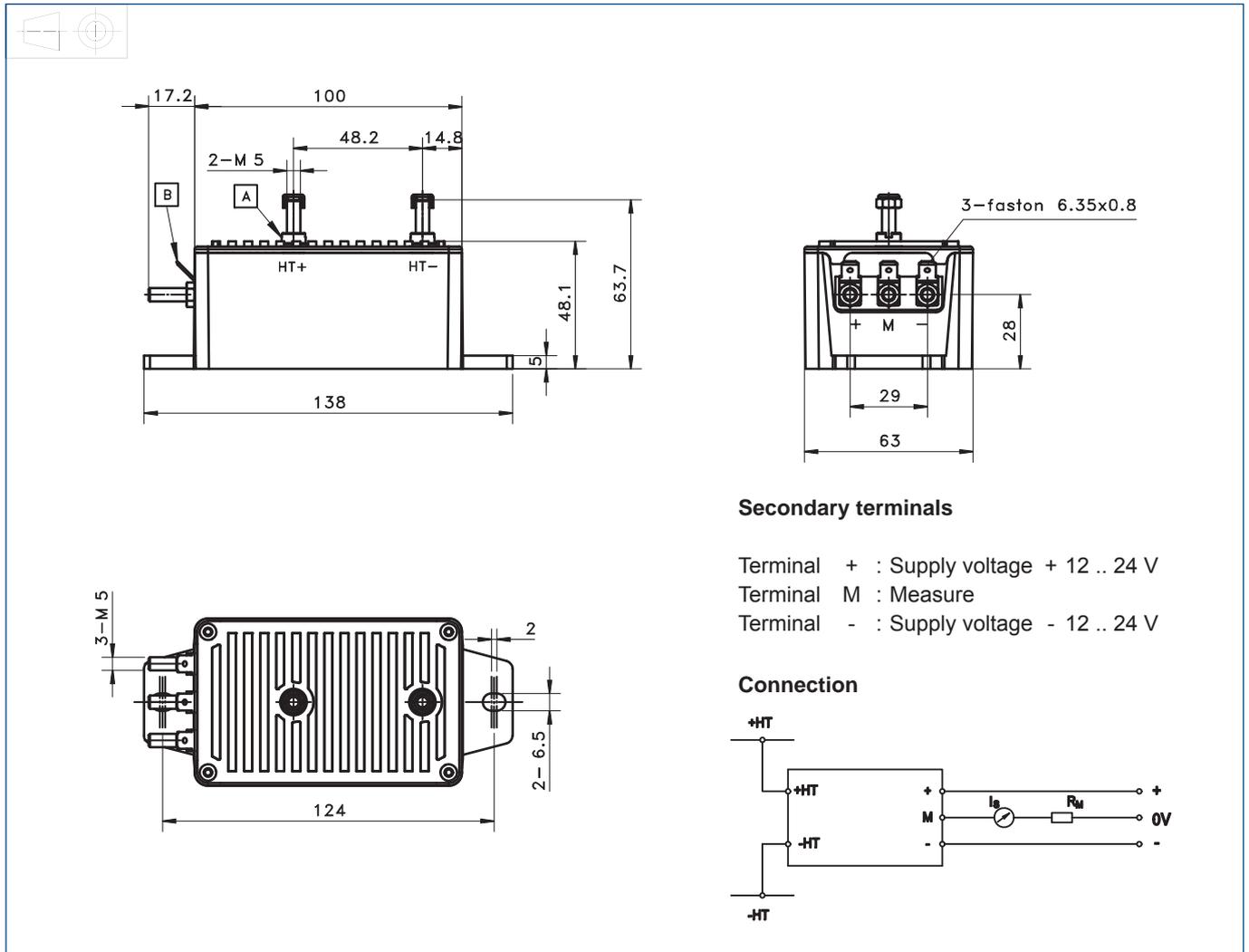
Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a 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 AV 100 Series (in mm)



## Mechanical characteristics

- General tolerance  $\pm 1$  mm
  - Transducer fastening
    - 2 holes  $\varnothing 6.5$  mm
    - 2 M6 screw
    - Distance between holes 124 mm
    - Recommended fastening torque 4 Nm
  - Fastening & connection of primary
    - 2 M5 threaded studs
    - Recommended fastening torque 2.2 Nm
  - Fastening & connection of secondary
    - 3 M5 or 3 Faston
    - 6.35 x 0.8 mm
    - Recommended fastening torque 2.2 Nm
- Output connections must be made with screened cables

## Remarks

- $I_s$  is positive when  $V_p$  is applied on terminal +HT.