

EPOXY RESIN CAST VOLTAGE TRANSFORMERS

for highest voltage of equipment up to 36 kV

VPA

APPLICATION

These transformers are used to separate measuring and protection equipment from high voltages and to transform the voltages measured to the values required by the measuring and protection equipment.

STANDARDS

These transformers are produced in compliance with IEC, VDE, ANSI, BS and other standards.

DESCRIPTION OF MAIN PARTS

- Cores used in voltage transformers are made of quality cold-rolled grain-oriented steel sheets. All cores used in the transformers are thermally treated.
- Low and high voltage windings are designed as multilayer windings. The low voltage winding is wound on the respective frame. The high voltage winding is wound on the insulated low voltage winding. The conductors used for windings are made of electrical

grade electrolytic copper, and the insulation is a high-quality synthetic resin. The inter-layer insulation is a polyester foil with insulating paper on its both sides.

- Main insulation of these instrument transformers is epoxy resin compound cast in high vacuum with superior dielectric and mechanical properties.
- The primary terminals are made of brass and galvanised for corrosion protection. Connection to high-voltage terminals is made by M10 tightening screws.
- Low voltage terminals are closed with appropriate cover, which is tightened to the transformer body by means of special sealing screws. On the cover there are rubber cable glands for cables of 16 mm diameter. The terminal marked with symbol \perp must be properly earthed.
- The earthing screw (red marked) on the base plate has to be earthed.



Single-pole voltage transformer



Double-pole voltage transformer

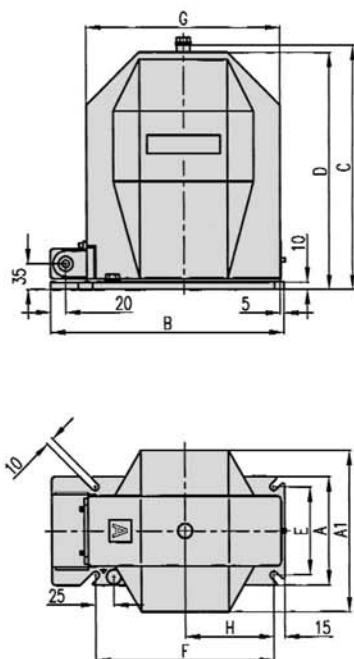
MAIN CHARACTERISTICS

Type		4VPA1-12	4VPA1-24	4VPA1-24x	4VPA1-38	4VPA-12	4VPA-24	4VPA-24x	4VPA-38
Highest voltage of equipment	(kV)	12	24	24	36	12	24	24	36
Rated power-frequency short-duration withstand voltage	(kV)	28	50	50	70	28	50	50	70
Rated lightning-impulse withstand voltage	(kV)	75	125	125	170	75	125	125	170
Rated power-frequency short-duration withstand voltage of secondary terminals	(kV)	3	3	3	3	3	3	3	3
Rated primary voltage	(kV)	10/√3 to 11/√3	18/√3 to 22/√3	10(11)/√3 and 20(22)/√3	30/√3 to 35/√3	10 to 11	18 to 22	10(11) and 20(22)	30 to 35
Rated secondary voltage	(V)	100/√3 or 110/√3	100/√3 or 110/√3	100/√3 or 110/√3	100/√3 or 110/√3	100 or 110	100 or 110	100 or 110	100 or 110
Rated tertiary voltage	(V)	100/3 or 110/3	100/3 or 110/3	100/3 or 110/3	100/3 or 110/3	-	-	-	-
Rated output of secondary windings:									
Power for class 0.2 - up to	(VA)	30	30		30	30	30	10	30
Power for class 0.5 - up to	(VA)	75	75	30	75	75	75	30	75
Power for class 1 - up to	(VA)	180	180	60	180	180	180	60	180
Continuous thermal current of secondary winding	(A)	6	6	6	12	6	6	6	6
Continuous thermal current of tertiary winding	(A)	9	9	9	9	-	-	-	-
Table of dimensions		1	2	3	3	1	2	2	3

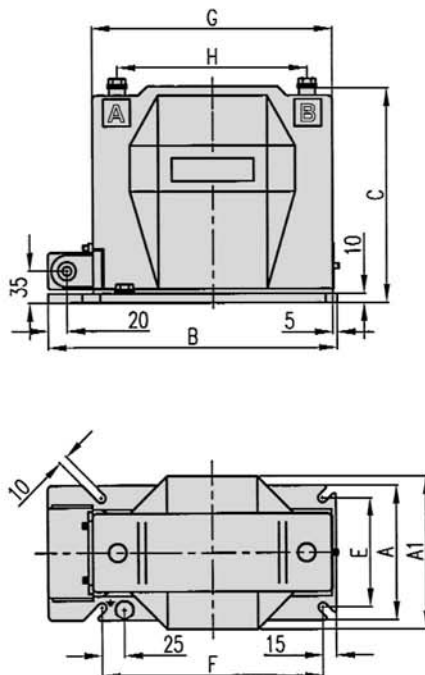
On request we produce voltage transformers for two rated primary voltages, with taps on the secondary winding.

If transformers are used in insulated networks or in networks earthed through great impedances, it is recommended to install a resistor in the open delta windings of each group of single-pole insulated voltage transformers to dump ferro-resonance. The resistor which can be delivered at request, for secondary voltage 100/3 V, should have resistance 11Ω and rated power 900 W. For secondary voltage 110/3 V, the resistor should have resistance 13,5Ω and rated power 900W.

Single pole insulated voltage transformer 4VPA1- sizes 1, 2 and 3



Double pole insulated voltage transformer 4VPA- sizes 1 and 2



Double pole insulated voltage transformer 4VPA- size 3

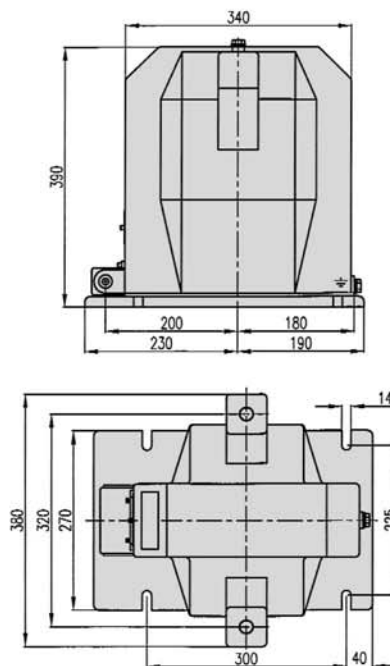


TABLE OF DIMENSIONS FOR SINGLE POLE INSULATED VOLTAGE TRANSFORMER 4VPA1-

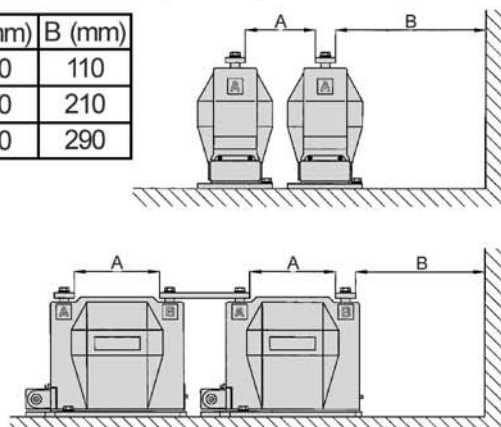
SIZE	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	(kg)
1	148	148	320	245	237	120	245	265	123	22
2	170	173	300	265	257	140	235	245	113	23
3	148	220	320	332	322	120	245	245	123	34

TABLE OF DIMENSIONS FOR DOUBLE POLE INSULATED VOLTAGE TRANSFORMER 4VPA-

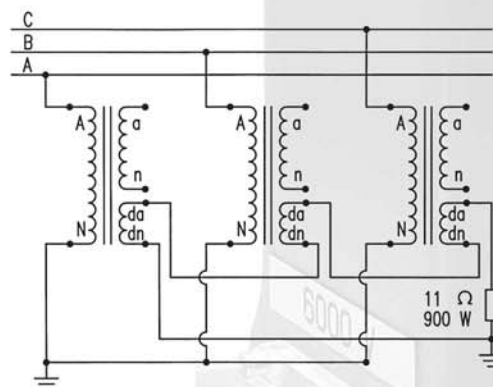
SIZE	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	(kg)
1	148	148	320	235	-	120	245	265	180	22
2	170	193	355	265	-	140	280	300	210	31
3	SEPARATE OUTLINE DRAWING (see above)									64

Minimum distances from high-voltage terminals

U _m (kV)	A (mm)	B (mm)
12	100	110
24	190	210
36	270	290



Resistor in open delta connection



NOTES: At request we produce transformers with different technical characteristics that are not given in this leaflet. All the dimensions in the drawings are given in millimeters. Dimensions of type 4VPA-38 comply with DIN 42600. Data given in this leaflet are for informative purposes only. With a view of constant improvement of product quality we reserve the right to change.