



Instrument Transformers

RITZ INSTRUMENT TRANSFORMERS, INC.

Outdoor Voltage Transformer

VEF 72.5

General Description

Ritz Instrument Transformers manufactures an extensive line of cast epoxy resin insulated instrument transformers across the voltage range from 5.5 kV to 72.5 kV.

This brochure describes Outdoor Voltage Transformers in the 69 kV class and offers some representative catalog numbers for various secondary winding configurations. Ritz, because of product depth, familiarity with international standards and custom design capability can also design a solution to your specific needs.

The VEF72.5 represents a cost-effective alternative to traditional oil-paper insulated voltage transformers for 69 kV applications. It is available with accuracies and burdens to meet most specifications.

Standards

Ritz designs to all national in international standards, such as IEEE, CSA, IEC, BS, AS, VDE, SEN, etc.

Insulation Level

Maximum System Voltage :	72.5kV
Power Frequency Applied Voltage :	140 kV
Basic Impulse Level :	350 kV

Rated Primary Voltage

Up to $69/\sqrt{3}$ kV



Secondary Windings

One or two single or tapped windings for measuring, for protection or for earth-fault detection are possible. In certain cases even 3 windings can be accommodate

Frequency

60 Hz or 50 Hz other values on request.

Voltage Factor

Up to 1.2 continuous and 1.73 for 1 minute. Up to 1.9 for 8 hours by special design.

Available Rated Burdens And Accuracy Classes

Maximum rating offered in accordance with IEEE and at 60 HZ for two tapped secondary windings is 0.3WXYZ.

Thermal Rating

Up to 2000 VA continuously

Ambient Air Temperatures

The standard design is suitable for a daily mean temperature of +50°C and a minimum temperature of -40°C.

Other ambient temperature ranges can be provided on request, e.g. a range for -50°C to +50°C.

Mechanical Strength

Static test load (applied on the primary terminal in any direction) of 1120 Lbf. (5000 N). The standard VEF72 is suitable for vertical (upright) mounting only. The VEF72 can be made for inverted or horizontal/cantilevered mounting on request.

Earthquake-Proof Design

The standard design is earthquake-proof up to 0.3g. More stringent seismic design criteria can be achieved on special request.

Tests

Routine tests in compliance with IEEE or other standard. Measurement of internal partial discharges is performed as a routine test on each unit. Max. permissible PD-level: (20 pC at $1.2 V_m/\sqrt{3}$, 50 pC at $1.2 V_m$).

Construction

Post-type design: The core and coil assembly is encapsulated in cycloaliphatic epoxy resin in a single process under vacuum using the pressure gelation method. The color of resin is grey. Brown resin available by special request. Benefits to this design include:

- Elimination of oil from substation
- Excellent tracking resistance
- Practically noncombustable
- Good ability to withstand ultra-violet rays
- High mechanical strength
- Corrosion and maintenance free

Primary Terminal

The standard primary terminal is a flat tin plated copper 4 hole NEMA pad. Alternate terminal configurations can be considered.

Secondary Terminal Box

The secondary terminal box is made of cast aluminum. The cover is sealable. The terminals of brass are clamp type for #14 through #3 wire. Two threaded 1" horizontal hubs with pipe plugs are provided for making connection to 1" conduit.

H2 Neutral Terminal

H2 is insulated to withstand 19 kV test level. Can be disconnected from external ground for testing purposes.

Nameplate

Nameplate data is etched onto blackened stainless steel plates.

Base

Bottom plate is made of corrosion resistant aluminum.

Grounding

A ground lug designed to accept a one-hole ground connector is provided as an integral part of the terminal box.

Commissioning and Maintenance

The voltage transformers are supplied ready for service. Just connect to system. No additional installation work or special tools are necessary. Instruction manuals are provided with the units. Periodic wiping down of the units with silicone grease is recommended

Primary Voltage (V)	Winding Ratio	Catalog Number	IEEE Accuracy Class, 60HZ	Thermal Rating (VA)
40250/69000 GY	350/600:1:1	126031013 01600	0.3WXYZ	2000

