



Inductive Voltage Transformer

Application

The VTO-650 is an outdoor, inductive voltage transformer suitable for metering or relaying applications on 138,000 volt systems at 650 kV BIL, at 60 Hz.

Fabrication

All ITEC transformers utilize high permeability, low loss, grain orientated silicon steel cores to optimize performance and physical size of the transformers.

Transformer tanks and expansion chambers are manufactured from mild steel and finished with the latest powder coating technology to withstand the most rigorous environmental conditions. Standard finish color is ANSI 70 light Gray.

All VTO's are hermetically sealed, full vacuum assemblies provided with a dry nitrogen cushion.

One-piece, wet processed porcelain bushings are used on all VTO's. Bushings are designed to exceed IEEE standards for creep and strike distances. The standard bushing color is ANSI 70 light Gray.

The primary terminal is a 4-hole NEMA pad, suitable for use with copper or aluminum bus connections. The secondary connections are ¼"-20 copper studs with hardware located in a weatherproof, hinged cover, terminal box with three (3) conduit knockouts suitable for 1-½" conduit hubs. All VTO's are equipped with a stainless steel, NEMA 2-hole ground pad.

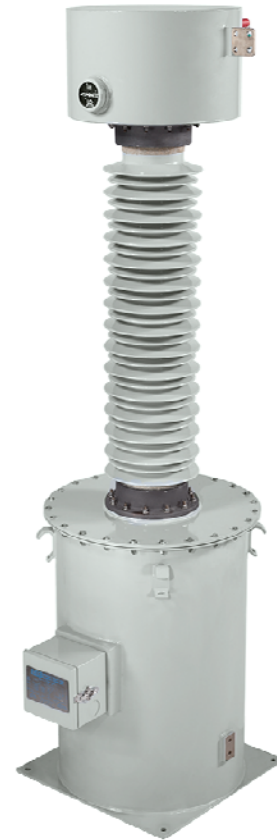
All VTO's are equipped with a 5kV HO bushing, magnetic oil level gauge, ¾" drain valve, ¾" oil fill plug and pressure relief valve.

Accuracy

VTO-650's are designed to provide 0.3% accuracy class when loaded with IEEE burdens of W, X, Y, Z and ZZ. Optional High Accuracy 0.15% class is available at W, X, Y and Z Burdens.

Magnetic Circuits

The VTO-650 is available in single, dual ratio, dual ratio with taps and up to three secondary windings.



Mounting

The VTO-650 is designed for mounting on substation structures.

Seismic Rating

The VTO-650 has been qualified through Dynamic Analysis to withstand High Level per IEEE 693-2005.

Testing

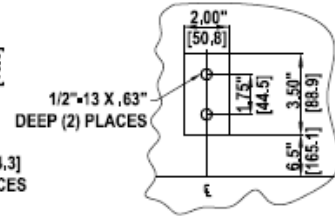
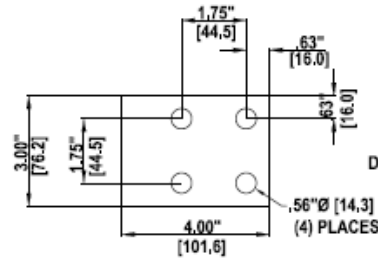
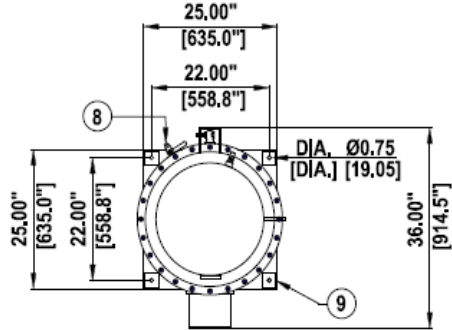
Every transformer is tested in accordance with IEEE Standard C57.13 (latest revision). Standard tests include applied and induced voltage, accuracy, polarity, dissipation factor and partial discharge. All transformers are guaranteed to be partial discharge free at 135% of nominal system voltage.

Options

- Stainless Steel Tank and/or Expansion Chamber.
- Extra Creep Bushings

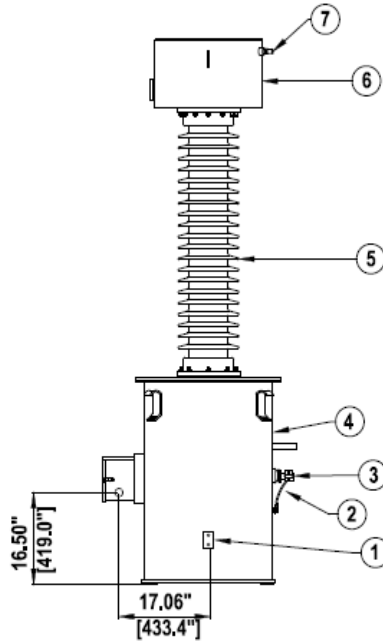
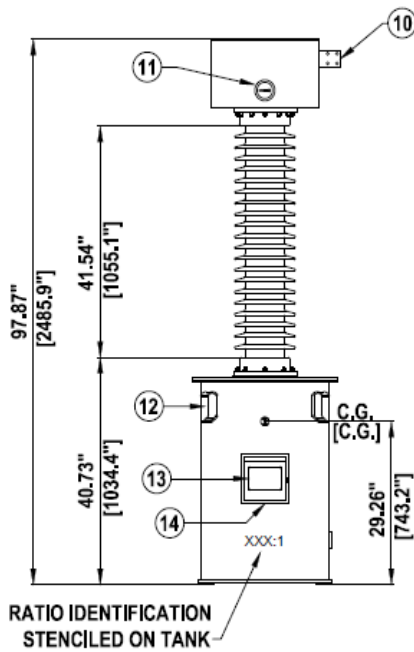
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Dimensions and Details



DETAIL VIEW OF HV TERMINAL

DETAIL VIEW OF GROUND PAD



Notes:

1. NEMA 2- hole Ground Pad
2. Removable HO Ground Strap
3. HO Bushing
4. Welded Steel Tank
5. Porcelain Insulator, ANSI 70 Lt. Gray
6. Welded Steel Expansion Chamber
7. 3/4" NPT Vacuum Port and PRV
8. 1/2" Drain Valve
9. Mounting Foot
10. Primary 4 Hole NEMA Terminal Pad
11. Oil Level Indicator
12. Lifting Eyes
13. Stainless Steel Nameplate
14. Secondary Terminal Box with three 1.5" hubs.

VTO-650

650 kV BIL
 Weight: 1360 pounds
 Gallons Oil: 86
 Creep Minimum: 104 inches
 Strike Minimum: 42 inches

Primary Voltage	Secondary Voltage	Winding Ratio	Thermal Rating	0.3 Accuracy Class / Burden Ratings	Catalog Number	0.15 Accuracy Class / Burden Ratings	Catalog Number
80500	115	700:1	6000 VA	W, X, Y, Z, ZZ	VA106500700S000	W, X, Y, Z	VH106500700S000
80500	115 & 115	700 & 700:1	6000 VA	W, X, Y, Z, ZZ	VA106500700X000	W, X, Y, Z	VH106500700X000
80500	115/67.08	700/1200:1	6000 VA	W, X, Y, Z, ZZ	VA106500700D000	W, X, Y, Z	VH106500700D000
80500	115/67.08 & 115/67.08	700/1200 & 700/1200:1	6000 VA	W, X, Y, Z, ZZ	VA106500700T000	W, X, Y, Z	VH106500700T000

This information is subject to change without notice. ITEC is not responsible for typographical errors.

Other ratings and options may be available. Please contact the factory with your requirements.

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