345000 Volt Instrument Transformers
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application
The UTF-420 outdoor voltage transformer is rated for use on 345,000 volt systems with 1300kV BIL. Primary line to ground connected voltage ratios are available from 1800:1 thru 3000:1 for use on 345,000 volt systems, at 60 Hertz (Hz). This oil-filled voltage transformer will operate with high accuracy for metering or relay applications.

accuracy performance
The UTF-420 will operate with 0.3 Class accuracy for metering applications with burdens of 0, W, X, M, Y, Z and ZZ. Upon request, 0.15 Class metering accuracy is available with burdens of 0, W, X, M, Y and Z. The transformer is accurate from 90% thru 110% of rated primary voltage.

mechanical description
The tank is steel plate, pressure and vacuum tight and hermetically sealed at the factory to prevent breathing and oil contamination. The dome is corrosion resistant aluminum and contains stainless steel expansion bellows to allow for the expansion/contraction of oil for temperature and load fluctuations. The bellows maintain constant pressure on the oil under various ambient and load conditions to allow for horizontal shipment. Base/Tank components are shot-blasted, washed and coated with a heavy galvanized finish, effectively making the unit paint-free. The primary bushings are ANSI 70 Gray, high strength porcelain with a high degree of stability for transportation and seismic withstand. They join in the center of the transformer where the two stage cascade design galvanized steel tank is located. The primary terminal is a tin-plated copper alloy stud supplied with a NEMA 4-hole pad connector. The secondary terminals are M8 hex head bolts with associated hardware located inside a removable cover, terminal box with a 1 ½” conduit opening in the bottom plate. The ground terminal is an integral NEMA 2-hole configuration on the VT base. The unit is fitted with a 5kV \( \text{H}_2 \) terminal, oil level indicator, and oil sampling valve.

mounting
The UTF is designed for mounting on substations structures in an upright position with four mounting holes in the base.

testing
The unit is individually tested per the IEEE C57.13 standard, including applied and induced voltage, accuracy and polarity. Additional tests include dissipation and partial discharge tests. Partial discharge testing is performed to guarantee the unit is free of partial discharge through 135% of the nominal system voltage.

options
The UTF is available with an additional secondary winding (3 total), Polymer Bushings, Extra Creep Bushings, Stainless Steel Tank, and/or -50°C oil. Contact factory for other needs.

ORDERING INFO FOR UTF-420

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Primary</th>
<th>Secondary</th>
<th>Catalog Number</th>
<th>Accuracy/Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800/3000:1:1</td>
<td>207000</td>
<td>115/69 &amp; 115/69</td>
<td>P743000T0</td>
<td>0.3 0,W,X,M,Y,Z,ZZ</td>
</tr>
<tr>
<td>1800/3000:1</td>
<td>207000</td>
<td>115/69 &amp; 115 &amp; 115</td>
<td>P743000T0-812</td>
<td>0.3 0,W,X,M,Y,Z,ZZ</td>
</tr>
<tr>
<td>1800:1:1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Thermal Burden Rating (Typical): 2000VA.
- Overvoltage Ratings: 1.1x cont., 1.4x 1 min.
- IC Approval AE-0503 is noted by bold catalog number.

HIGH ACCURACY UTF-420

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Accuracy/Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact factory</td>
<td>0.15 0,W,X,M,Y,Z</td>
</tr>
<tr>
<td></td>
<td>0.15 0,W,X,M,Y,Z</td>
</tr>
</tbody>
</table>
ORDERING INFO FOR DFK-362

<table>
<thead>
<tr>
<th>Capacitance (pF)</th>
<th>Ratio - 1800/3000:1:1</th>
<th>Catalog Number</th>
<th>Accuracy/Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td>Secondary</td>
<td></td>
</tr>
<tr>
<td>1700</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76017P3000N</td>
</tr>
<tr>
<td>1700</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76017R3000N</td>
</tr>
<tr>
<td>1700</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76017M3000N</td>
</tr>
<tr>
<td>2600</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76026R3000N</td>
</tr>
<tr>
<td>2600</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76026M3000N</td>
</tr>
<tr>
<td>4400</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76044R3000N</td>
</tr>
<tr>
<td>4400</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76044M3000N</td>
</tr>
<tr>
<td>4600</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76046R3000N</td>
</tr>
<tr>
<td>7000</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76070M3000N</td>
</tr>
<tr>
<td>7000</td>
<td>207,000</td>
<td>115/69 &amp; 115/69</td>
<td>P76070Z3000N</td>
</tr>
</tbody>
</table>

- Thermal burden rating (Typical): 1000VA (1500VA for 0.3 ZZ rated units).
- Overvoltage Ratings: 1.1x cont., 1.4x 1 min.
- Units available with carrier accessories. Change last letter of catalog number from N to C.
DFK–362 Capacitive VT

NOTE: OUTLINES ARE FOR REFERENCE ONLY. CONTACT FACTORY FOR ACTUAL DESIGN DRAWINGS.
utility

The CA-362(CXM-1300) outdoor current transformer is rated for use on 345,000 volt systems with 1300kV BIL. Primary current ratios are available from 5:5 to 4000:5 at 60 Hertz (Hz) with a Rating Factor of up to 4.0 (4800A max). This oil-filled current transformer will operate with high accuracy for metering or relay applications.

mechanical description

The tank dome is fabricated from corrosion resistant aluminum and contains stainless steel expansion bellows to allow for the expansion/contraction of oil for temperature and load fluctuations. The bellows maintain constant pressure on the oil under various ambient and load conditions to allow for horizontal shipment. Base components are shot-blasted, washed and coated with a heavy galvanized finish, effectively making the unit paint-free. The primary bushing is ANSI 70 Gray, high strength porcelain with a high degree of stability for transportation and seismic withstand. The primary terminals are tin plated aluminum, NEMA 4-hole pads (copper for units rated above 1800A). An adjustable primary spark gap is provided for all units to protect from high transients. The secondary terminals are M8 hex head bolts with associated hardware located inside a removable cover, terminal box with a 1 ½” conduit opening in the bottom plate. The ground terminal is an integral NEMA 2-hole configuration on the CT base. The unit is fitted with an oil level indicator, and oil sampling drain valve.

accuracy performance

The CA-362 will operate with 0.3 Class accuracy for metering applications with burdens of B0.1 to B1.8. The unit can be designed with relay accuracy up to C800. The transformer is accurate through its Rating Factor, and can be used continuously to this level. The CXM-1300 will operate with 0.15 Class high accuracy for metering applications with burdens of B0.1 to B1.8. The transformer maintains 0.15 accuracy from 0.5% of I\textsubscript{nom} through its Rating Factor, and can be used continuously to this level.

mounting

The CA(CXM) is designed for mounting on substation structures in an upright position with four mounting holes in the base.

testing

The unit is individually tested per the IEEE C57.13 standard, including applied and induced voltage, accuracy and polarity. Additional tests include dissipation and partial discharge tests. Partial discharge testing is performed to guarantee the unit is free of partial discharge through 135% of the nominal system voltage.

options

The CA(CXM) is available with an Extra Creep Bushing, Polymer Bushing, Stainless Steel Tank, and/or -50°C oil. The unit can be offered in single, dual or multiple core designs. Contact factory for other needs.

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