

DRY TYPE TRANSFORMERS UP TO 600 V PRIMARY

1. GENERAL

- .1 Provide enclosed dry type transformers 600 V primary to 120/208 V.
- .2 Product Data - 3 Phase, 4 Wire Secondary
 - .1 Submit product data in accordance with Section 16010 – Electrical General Requirements.
- .3 Transformers to conform to CSA C57.12 and L2 standards, and are to be approved to CSA Code Part 2, Standard C22.2, No. 47 and CSA C9.

2. PRODUCTS

2.1 Transformers

- .1 General: Dry type, air cooled, self ventilated. Enclosures to be EEMAC-1 type, code gauge steel, complete with ventilating openings, access panels, mounting brackets, and solderless primary and secondary cable connectors. Enclosures to have zinc chromate prime coat and enamel finish coat per Section 16010 – Electrical General Requirements. Transformers to be single or three phase as noted on the Drawings. Dry type transformers shall be Westinghouse, FPE, BEMAG, REX Power Magnetics, or approved equal.
- .2 Design
 - .1 Type: ANN
 - .2 3 phase, rating as indicated on Drawings, 600 V input, 120/208 V output, 60 Hz.
 - .3 3 phase, rating as indicated on Drawings, 600 V input, 600/347 V output, 60 Hz.
 - .4 1 phase, rating as indicated on Drawings, 600 V input, 120/240V output, 60 Hz.
 - .5 Voltage primary taps: 2.5% Full capacity above and below normal
 - .6 Insulation: 220 Class.
 - .7 Basic Impulse Level (BIL): 10 kV B.I.L.
 - .8 Hipot: 4 kV
 - .9 Average Sound Level: To meet the local municipal & building codes and meet at minimum the following criteria: 45 dB max. up to 45 kVA
 - .10 Impedance at 170°C: 6.0% max. up to 112½ kVA
 - .11 Enclosure: EEMAC 1, removable metal front panel

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- .12 Mounting: Up to 45 kVA suitable for wall or floor mounting and above 45 kVA suitable for floor mounting unless otherwise shown
- .13 Finish: In accordance with Section 16010 – Electrical General Requirements.
- .14 3 Phase Windings: Arrange with three primary windings connected in delta and three secondary windings connected in wye.
- .15 Max. Winding Temperature: 150°C rise with temperature continuous full load
- .16 Max. Lead Connection: 55°C rise with temperature continuous full load
- .17 Windings: Copper.
- .18 Losses not to exceed CAN/CSA C802 and NEMA TP-1 standards.

2.2 Equipment Identification

- .1 Provide equipment identification in accordance with Section 16010 – Electrical General Requirements.
- .2 Label Size: 7

3. EXECUTION

3.1 Installation

- .1 Mount dry type transformers up to 45 kVA as indicated on Drawings.
- .2 Ensure adequate clearance around transformer for ventilation
- .3 Install transformers in level upright position.
- .4 Remove shipping supports only after transformer is installed and just before putting into service.
- .5 Loosen isolation pad bolts until no compression is visible.
- .6 Make primary and secondary connections in accordance with wiring diagram.
- .7 Mount transformers as indicated on Drawings and connect primary, secondary, neutral and ground conductors. Provide brackets and bolts for wall mounted transformers. Ensure all transformers have good ventilation.
- .8 Do not use permanent distribution system dry type transformers for temporary power distribution without permission from the Contract Administrator.

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- .9 Mount transformers to reduce direct and transmitted noise. Mount core and coils of transformers on vibration and sound absorbing pads.
- .10 Record secondary voltage when transformers are carrying approximately 75% of full load. Adjust tap connections to give a continuous secondary voltage of 120 V phase to neutral. Set tap connections for above 120 V rather than below.
- .11 Connections to transformers shall be in flexible conduit and shall enter the enclosure below the coils.
- .12 Before energization, keep transformers or storage room enclosures above 10°C ambient.

END OF SECTION