





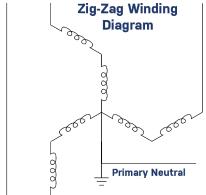
GROUNDING TRANSFORMERS

SYSTEM FAULT PROTECTION

Modern power systems require a solid ground reference to service single phase loads, protect personnel from undetected ground faults, and assure proper ground fault relay operation. Grounding transformers provide a relatively low impedence path to ground during a single phase fault to ground event.

Grounding transformers can be either traditional delta-wye or zig-zag connected.

A Zig-Zag grounding transformer is a three phase transformer with a special construction resulting in reduced voltage across the windings. Consequently a Zig-Zag transformer can be made smaller by $\sqrt{3}$ as compared to a traditional transformer. As a result Zig Zag transformers can be more cost effective and have a smaller footprint than a wye/delta design.



A two winding delta/wye grounding transformer must be used if a lower secondary voltage is required for control power or relaying.

Transformer Features:

- Up to 35kV Systems
- Padmount tamperproof design
- Optional Substation design
- Mineral Oil or Natural Ester insulating fluid
- Monitoring devices
- Neutral grounding resistor

Required Design Information:

- Rated voltage class (volts)
- Rated BIL (kV)
- Rated short-time neutral current (A)
- Rated short-time neutral current duration (sec)
- Rated continuous neutral current (amps)
- Rated zero sequence impedance (ohms per phase)





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