

# Grounding Transformer General Information

*We can do that!*

Should you have an application where a ground path is required for a delta connected or ungrounded wye connected system and a custom grounding transformer is required...

## OLSUN Electric can do that!

OLSUN can design, manufacture and supply a dry-type grounding transformer in either a Zig-Zag or a two-winding configuration for your particular application.

A properly designed and installed grounding transformer will protect an isolated three phase system in the event of a line-to-ground fault by providing a low impedance path to ground for ground fault currents to flow while prohibiting voltage rise in the un-faulted phases and accommodating the connection of phase-to-neutral loads if required.

To provide a quotation or to design and manufacture the required grounding transformer, OLSUN Electric requires certain application and system data. Without the data listed at the right, OLSUN will not be able to provide a quotation or design the grounding transformer necessary for your application.

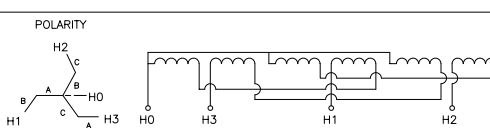
**NOTE!** You may notice that “kVA” is not one of the parameters requested. Grounding transformers are sometimes referenced by a kVA, but technically, they should not be so referenced unless they are providing auxiliary power in some way.

A grounding transformer in the conventional sense is “rated” based on the system continuous current and fault current it is designed to carry.

- **Winding configuration;** either two-winding or zig-zag.
- **Voltage(s) and BIL;** The line to line value of the system to which the grounding transformer is to be connected. If a two winding grounding transformer is required, the secondary voltage must be provided as well.
- **Continuous neutral current**
- **System available neutral fault current and duration** (example 500 amps for 10 seconds, 4000 amps for 2 seconds).
- **Zero Sequence Impedance and Resistance required** (ohmic values per phase or percentage).
- **X/R ratio required** (typically a value > 4).
- **Indoor or Outdoor and special conditions,** i.e. 2000 MASL, etc.
- **Enclosure construction preference** (ex. high security compartmentalized padmount, standard ventilated or substation design, special paint color, etc.)
- **Terminal/connectivity preferences,** i.e. dead front, live front conventional terminals, etc.
- **Transformer temperature rise,** 150° C if not specified.
- **Winding material preference** (copper or aluminum) if desired.

Example: Standard Nameplate and 600 volt class NEMA 3R enclosure Grounding Transformer

**Engineered and Assembled in  
Richmond, IL USA**

OLSUN Electric Engineered Transformer Solutions www.olsun.com tel. 800.336.5786		DRY TYPE GROUNDING TRANSFORMER CLASS AA	
CONTINUOUS NEUTRAL CURRENT	103.0 AMPS	RATED TIME	5 S. FAULT WHITSTAND
SHORT CIRCUIT NEUTRAL CURRENT	1710 AMPS	RO	0.081 OHMS @25°C
H.V.	480ZZ	10 KV BIL	PHASES 3
L.V.		HERTZ 60	Tc @170°C 1.59
			WGT. 650 LBS
<p>POLARITY</p> 			
OUTDOOR APPLICATION		C57.32-2015	
DE-ENERGIZE TRANSFORMER BEFORE CHANGING TAPS			



# Sales Data Sheet for Grounding Transformer RFQs

Note: 24 hour quote time from receipt of required customer information to quotation.  
Parameters listed below are REQUIRED to provide a quotation.

**Customer / Project reference:** \_\_\_\_\_ (Inquirer) \_\_\_\_\_

**Type:** \_\_\_\_\_ ZZ / (One winding) Voltage \_\_\_\_\_

\_\_\_\_\_ Two winding pri. \_\_\_\_\_ sec. \_\_\_\_\_ vector \_\_\_\_\_

(Two winding referenced impedance if provided? \_\_\_\_\_%)

**Continuous Current:** \_\_\_\_\_ amps \_\_\_\_\_ Neutral \_\_\_\_\_ Phase  
(Note: 1 Neutral = 3 x 1 Phase)

**Fault Current:** \_\_\_\_\_ amps \_\_\_\_\_ Neutral \_\_\_\_\_ Phase \_\_\_\_\_ sec. duration

**Per Phase Ohms:** Impedance: \_\_\_\_\_ ohms / phase Resistance: \_\_\_\_\_ ohms / phase

**Zero Sequence Impedance (percentage):** \_\_\_\_\_ %

**X/R ratio:** \_\_\_\_\_  $\geq 4$  Other: \_\_\_\_\_ min / max  
(All values quoted at 75° C)

**Winding:** \_\_\_\_\_ CU (Std.) \_\_\_\_\_ AL

**NEMA Steel Encl:** \_\_\_\_\_ 1 \_\_\_\_\_ 3R Special: \_\_\_\_\_ Stainless? \_\_\_\_\_

**Temperature rise:** \_\_\_\_\_ 150° C \_\_\_\_\_ 115° C \_\_\_\_\_ 80° C Other: \_\_\_\_\_

## General Notes

- If both ratings are present, Grounding Transformers will be rated to Continuous and Fault Current rating values, not kVA.
- Reference ANSI/IEEE Standards C57.32
- Neutral current rated 3 times phase current
- Typically UL list-able under E78350, E59100 (encapsulated), E143467 medium voltage

**For additional assistance, contact Jeff Jachowicz at Olsun Electrics, [jjachowicz@olsun.com](mailto:jjachowicz@olsun.com).**

**Transforming the Industry with:  
Handcrafted Quality • Sophisticated Designs • Superior Materials • Olsun Flexibility**

Olsun Electrics is a leading dry type transformer manufacturing company that has been providing solutions in the most challenging environments for over five decades.