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| <p style="text-align: center;">MINIMUM REQUIREMENTS FOR THE INSTALLATION OF STEP UP-STEP DOWN SINGLE PHASE, LOW VOLTAGE TRANSFORMERS</p> |
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This bulletin provides guidance for acceptable installation of transformers. This bulletin details the location, disconnects, bonding, and grounding of single-phase step-up, step-down transformers and similar configurations. Design drawings prepared by a professional engineer in good standing with APEGBC must be provided for installations that deviate from the guidance provided by this bulletin.

This installation is an option where long distances are encountered, and voltage drop is a consideration. See rule 8-102.

The following conditions apply to transformer installations:

- Transformer impedance must match
- Parallel conductors are not permitted in the intermediate system
- Maximum of two transformers
- Maximum allowable voltage 750V

Part A: Transformer location

Rule 2-200 must be taken into consideration when determining a suitable location. A separate room or area restricting access to only authorized persons will typically satisfy these requirements. See [IB-EL 2016-05](#) sections D: Ventilation, F: Adequate Working Space, and H: Protection for Electrical Workers for further information on the requirements for the installation of this equipment.

Part B: Transformer disconnects

A disconnecting means must be provided in the primary circuit of each transformer per rule (26-248).

The disconnect must be accessible and locked to prevent unauthorized access.

Each transformer must be provided with markings indicating the location of the disconnecting means and other markings necessary to ensure safe and proper operation.

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Part C: Transformer bonding and grounding:

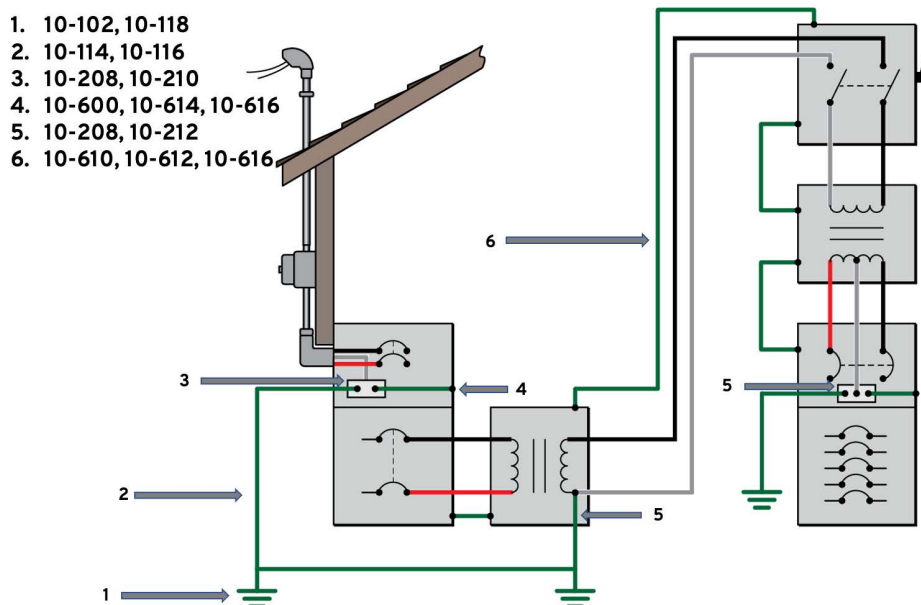
Equipment must be bonded to the ground in accordance with rule 10-610, and the bonding conductor size must not be less than that given in rule 10-616.

The higher voltage AC system between the step-up and step-down transformers must be grounded, and the grounded conductor must be identified.

As per Rule 10-212 2) a separately derived ac system operating at 750 V or less shall be permitted to be grounded by the system bonding jumper that is connected to the bonding conductor included in the primary supply.

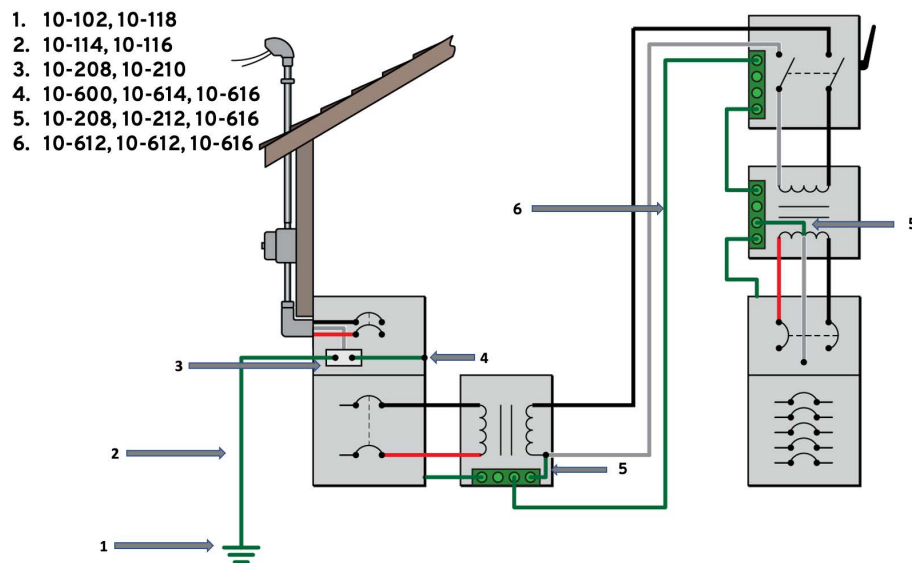
Note: Rule 10-212 2) can be applied to both transformers.

The XO point on the secondary of the step-down transformer must be grounded with a minimum #6 AWG copper at the distribution panel's main neutral buss, or at the transformer per Rule 10-212.



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Provincial Safety Manager

References:

Safety Standards Act

Electrical Safety Regulation

Safety Standards General Regulation

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