

January 28, 2019

SAFETY CODES SERVICES BULLETIN

INSTALLATION OF ELECTRICAL SERVICE METERS

Canadian Electrical Code, Part 1 2018 24th EDITION, which comes into force February 1 2019, has introduced a new rule for the requirement for grounding services. Single point service grounding may be done in one of two ways.

1. The neutral conductor may be grounded at the meter base; this method will require that the neutral lug in the meter base to be changed to a lug with a minimum of three terminals if the lug attachment screw is rated and sized for the bonding requirements. One terminal for the neutral in, one for the neutral out and one for the main system ground. One more terminal will be required for a bonding jumper to the meter base can if the lug attachment screw is not rated, or sized for bonding requirements.
2. The neutral conductor can be grounded at the panel main disconnect; this method will require the neutral lug in the meter base to be changed to an isolated lug to avoid bonding twice.

Both methods will require a bonding conductor between the meter base tub and the panel tub.

Because of this new rule and the changes required at the meter base, the meter base requires inspection before meter installation. Therefore the following changes to inspections must take place.

1. Service changes in existing buildings will require that a rough-in inspection to be added to the permit. When the service is at a point that the system grounding and bonding is complete and the service is ready for a Utility connection, you will be required to call for the rough-in inspection. Once the rough-in inspection passes, the Electrical Inspector will contact the Electrical Utility and inform them that the service is acceptable to be connected. Upon completion of the entire service, the contractor will book the final inspection for the balance of the installation.
2. New services will require a service inspection be added to the permit. Once the service inspection passes, the electrical inspector will contact the Electric Utility and inform them that the service is acceptable to be connected.

You will still be required to contact Electric Utility to arrange for the Service connection.



10-210 Grounding connections for solidly grounded AC systems supplied by the supply authority (see Appendix B).

The grounded conductor of a solidly grounded ac system supplied by the supply authority shall:

- a) be connected to a grounded conductor at one point only at the consumers service;
- b) have a minimum size as specified
 - i. for a bonding conductor; and,
 - ii. for a neutral conductor when the grounded conductor also serves as a neutral;
- c) be connected to the equipment bonding terminal by a system bonding jumper; and,
- d) have no other connection to the non-current-carrying conductive parts of electrical equipment on the supply side or the load side of the grounding connection.

Rule 10-210

The system bonding jumper may be a bonding screw or bonding strap supplied with the consumer's service equipment, sized in accordance with the corresponding Canadian Electrical Coded Part II Standard. Where the system bonding jumper provided by the manufacturer is removed or missing, a field-installed system bonding jumper is sized in accordance with Rule 10-614. Meter mounting devices are often supplied with a termination point for a system grounded conductor (neutral) that is solidly connected to the conductive metal enclosure of the meter mounting device. This arrangement may not have been tested for suitability as a system bonding jumper and should not be used as such. If the grounding connections for a solidly grounded system are to be made at the meter mounting device, an isolated neutral bus that incorporates provision for a bonding screw, a bonding strap, or a field-installed system bonding jumper should be installed as prescribed by the manufacturer. The term "grounded conductor" is used to refer to the conductor or point of an electrical system that is grounded. Where the midpoint conductor (neutral) of a single-phase or multi-phase midpoint system is solidly grounded, the grounded conductor serves as the identified neutral conductor intended to carry the unbalanced load (neutral currents). The grounded conductor serves as the bonding conductor in addition to its primary function of carrying neutral currents. A consumer's service that is supplied by the supply authority and grounded at the meter mounting device is shown in Figure B 10-4.

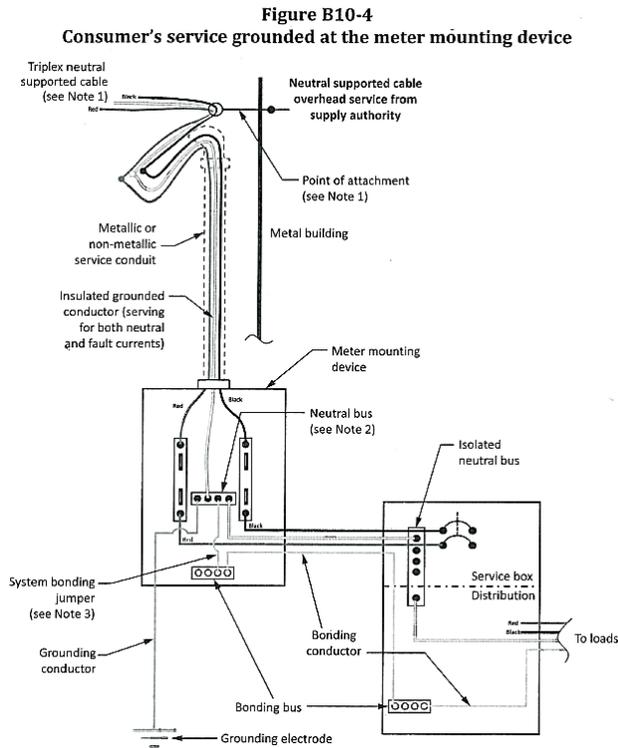
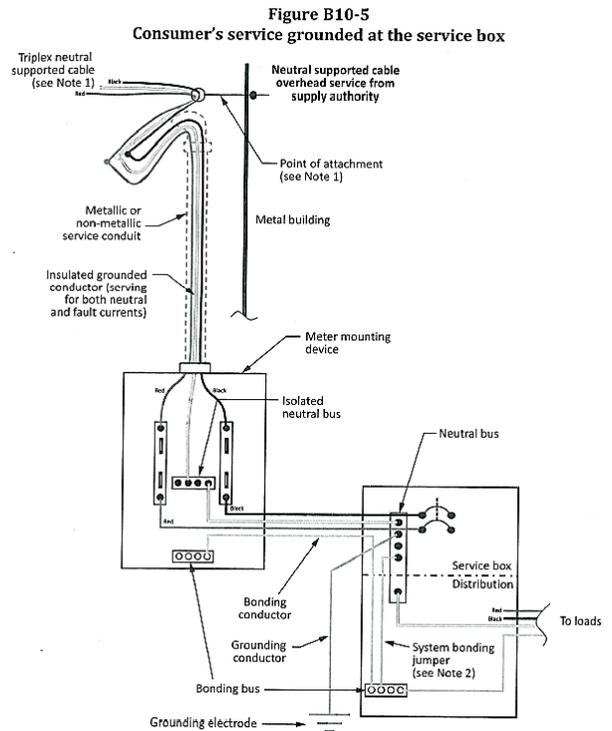


Figure B10-4 Notes:

- 1) When the bare neutral of the triplex neutral supported cable is used as a neutral conductor, it is attached to an insulator at the point of support and terminations. It should not be in contact with any grounded surface [see Rule 12-318 e].
- 2) The neutral bus in the meter mounting device may be isolated from, or solidly connected to, the enclosure, as follows:
 - a) when it is isolated from the meter enclosure, either a factory-installed or a field-installed system bonding jumper is acceptable; or
 - b) when it is solidly connected to the meter enclosure, the manufacturer's instructions should be consulted to determine if the solid connection to the meter enclosure is suitable as the system



bonding jumper or if a field-installed system bonding jumper is required.

- 3) The system bonding jumper may be field-installed (a conductor) or factory-installed (a screw or strap).

Figure B10-5 Notes:

- 1) When the bare neutral of the triplex neutral supported cable is used as a neutral conductor, it is attached to an insulator at the point of support and terminations. It should not be in contact with any grounded surface [see Rule 12-318 e].
- 2) The system bonding jumper may be field-installed (a conductor) or factory-installed (a screw or strap).