Bulletin 10-15-8
Grounding with a meter base on the supply side of service boxes
Rules 6-402, 10-210, 10-604 and 10-616

Issued May 2025
Supersedes Bulletin 10-15-7

Scope

1) Background
2) Single meter base grounding
3) Multi-gang meter base grounding
4) UPDATED ESA's direction for single and multi-gang meter base grounding

1) Background

Rule 6-402 2) states metering equipment shall be connected on the supply side of a service box within limits placed on voltage and amperage common, but not limited, to residential services.

Rule 10-210 requires the grounding connection of the supply authority system grounded conductor (neutral) to be made at one point only at the consumer's service and have no other connection to metal parts of the electrical equipment on the supply or load side from where the grounding connection is made.

2) Single meter base grounding

Where the consumer's service has a single meter base and service box, the Ontario Electrical Safety Code (OESC) permits the grounding connection at the meter base or at the service box as per examples shown in Diagrams B1 a) and b) below.

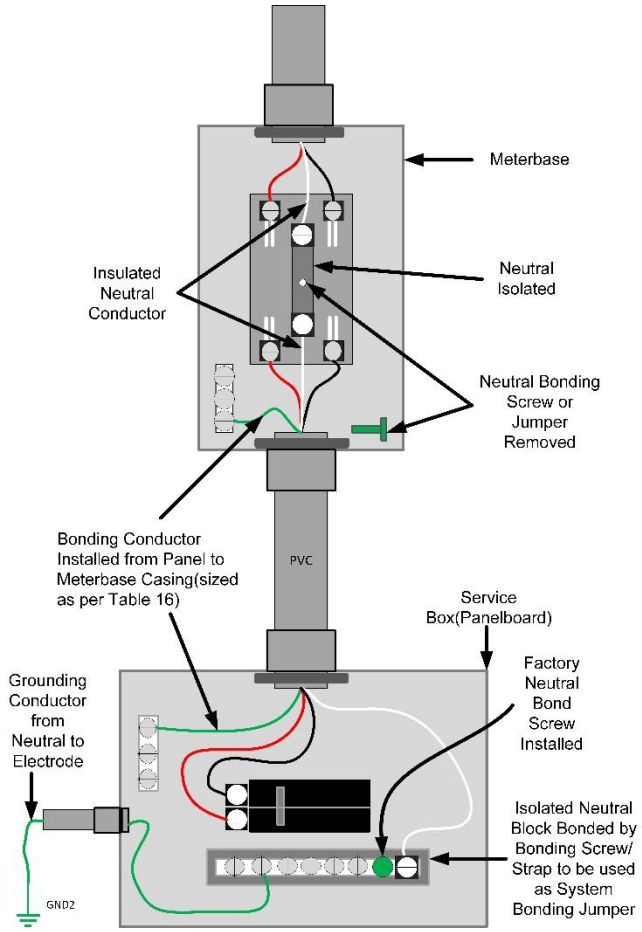
Note 1: The configuration of the meter base neutral assembly is required to be suitable for the grounding method being used.

Note 2: When grounding is done at the meter base, the grounding conductor is not permitted to be installed in the conduit containing the utility conductors. A separate conduit will be required since the conduit is ahead of the ownership demarcation point and falls under the requirements of the supply authority. Rule 2-038 does not permit the use of the utility's distribution equipment to meet the requirements of the OESC.

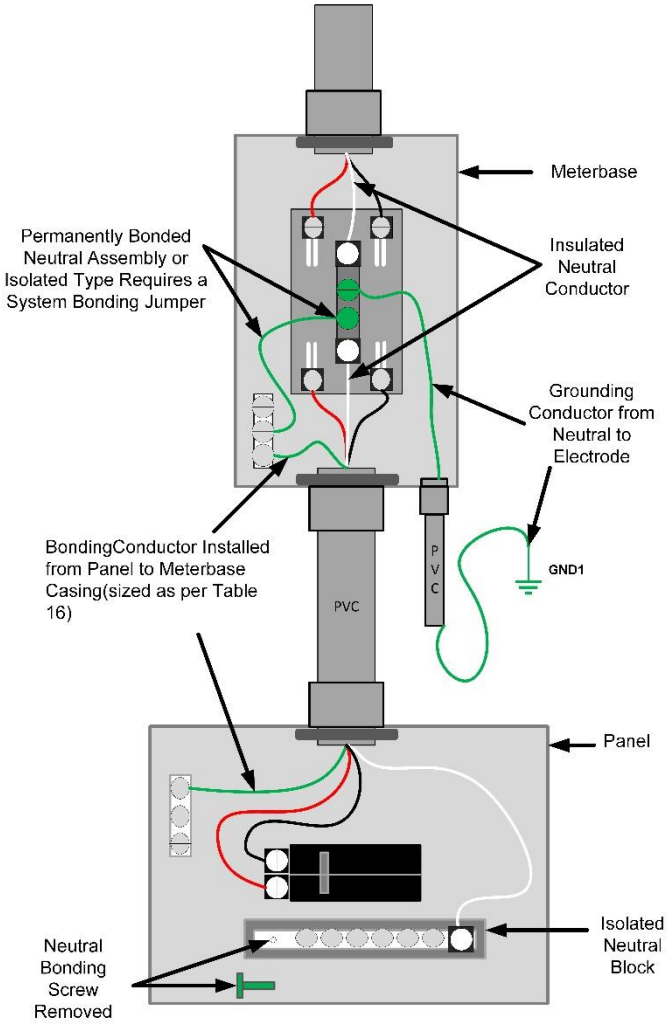
Note 3: Existing meter base where the neutral is bonded to the enclosure that needs replacement with same configuration (neutral bonded to enclosure) and rating will be accepted without the additional bond conductor.

Diagram B1 – Grounding at single-gang meter base or service box

a) Grounding at service box



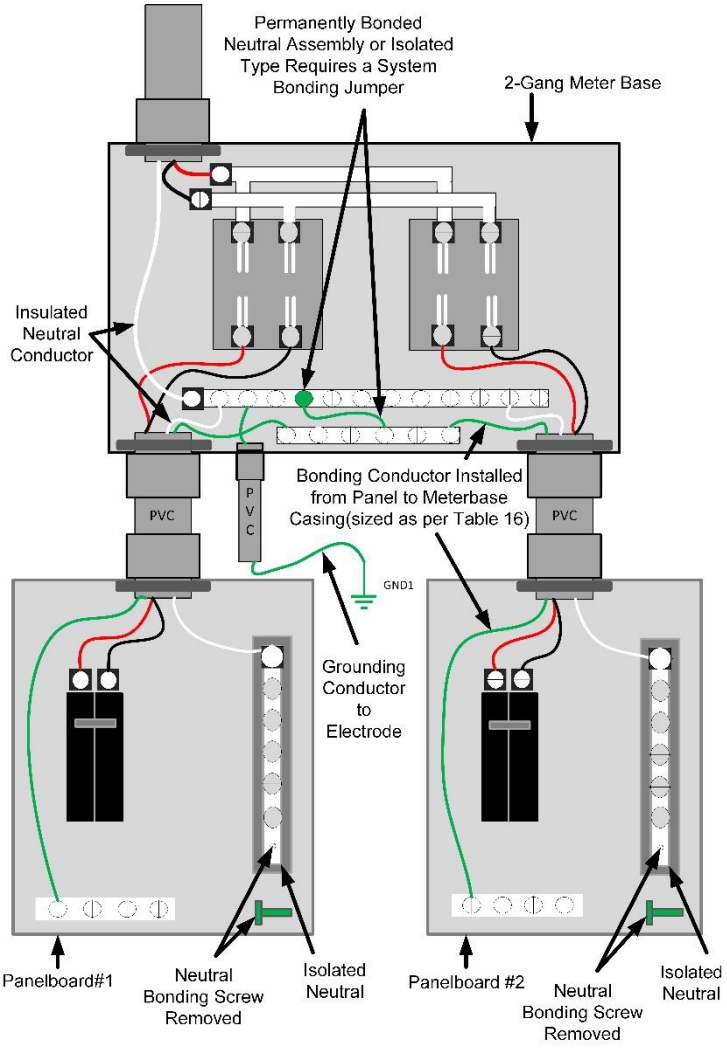
b) Grounding at meter base



3) Multi-gang meter base grounding

Where the consumer's service is subdivided in a multi-gang meter base, the grounding connection shall be made at the meter base to achieve "single point grounding," as per Diagram B2 below, and grounding is not permitted at each service box since each service box is on the supply side of the others. Also, grounding at each service box may result in objectionable current over grounding conductors, prohibited by Rule 10-100. A bonding connection is required between each of the service boxes and the meter base as per Rule 10-604 and sized as per Rule10-616. System bonding jumper shall be removed from each service box.

Diagram B2– Grounding at multi-gang meter base



Note 4: When the grounding is done at a meter base, as per Diagrams B1 b) and B2) and a meter base has a neutral assembly connected to a meter base enclosure, the system bonding jumper sized as per Rule 10-616 is required to be installed to ensure permanent bonding of neutral assembly unless a manufactured bonding screw or jumper has been provided with the neutral assembly.

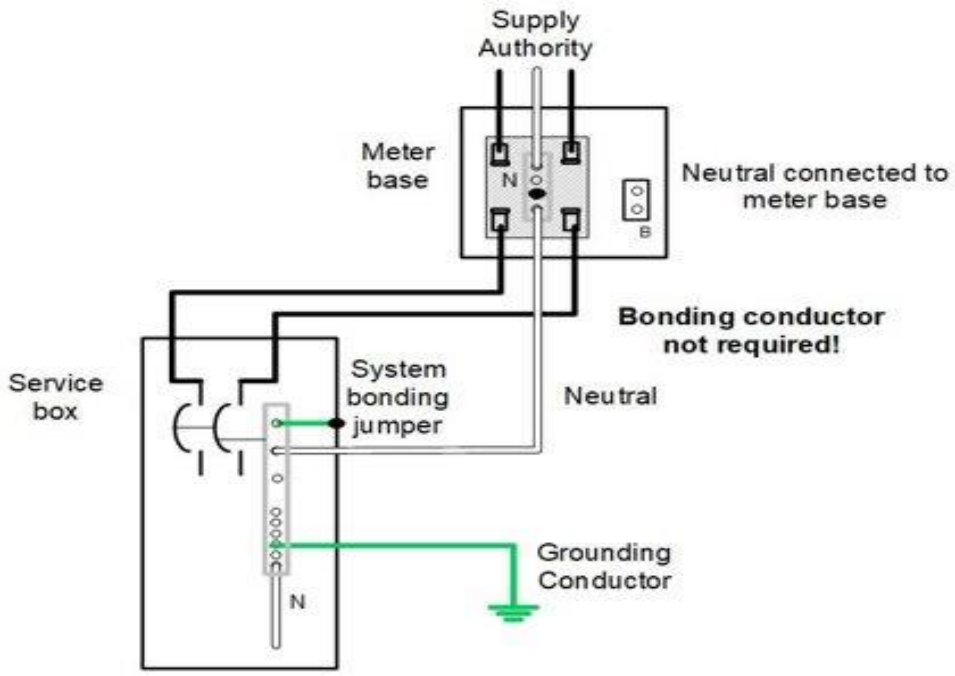
Note 5: Multi-gang meter bases available on the market are only available with the neutral bonded to the case. Rule 10-210 allows only one point of connection.

The field-installed system bonding jumper may be a conductor or strap.

4) UPDATED ESA's Direction for single and multi-gang meter base grounding

To provide the industry time to adjust, ESA will accept installations that align with diagrams B3 and B4 until October 1, 2025, as a postponement to Rule 10-210. After October/1/2025 it is no longer permitted for a neutral conductor to serve as the bonding means between a single-gang meter base and a service box when grounding takes place at the service box. See Diagram B3 and B4.

Diagram B3 – <u>No longer permitted practice for single-gang meter base after October/1/2025</u>



Grounding at each service box, when supplied or fed from a multi-gang meter base, is also no longer permitted. See Diagram B4.

Diagram B4 – <u>No longer permitted practice for multi-gang meter bases after October/1/2025</u>