

(C) **Attachment.** Main bonding jumpers and system bonding jumpers shall be connected by one or more of the methods in 250.8 that is suitable for the material of the bonding jumper and enclosure.

(D) **Size.** Main bonding jumpers and system bonding jumpers shall be sized in accordance with 250.28(D)(1) through (D)(3).

(1) **General.** Main bonding jumpers and system bonding jumpers shall not be smaller than specified in Table 250.102(C)(1).

(2) **Main Bonding Jumper for Service with More Than One Enclosure.** If a service consists of more than a single enclosure as permitted in 230.71(B), the main bonding jumper for each enclosure shall be sized in accordance with 250.28(D)(1) based on the largest ungrounded service conductor serving that enclosure.

(3) **Separately Derived System with More Than One Enclosure.** If a separately derived system supplies more than a single enclosure, the system bonding jumper for each enclosure shall be sized in accordance with 250.28(D)(1) based on the largest ungrounded feeder conductor serving that enclosure, or a single system bonding jumper shall be installed at the source and sized in accordance with 250.28(D)(1) based on the equivalent size of the largest supply conductor determined by the largest sum of the areas of the corresponding conductors of each set.

For more information, see the accompanying Closer Look feature about sizing main and system bonding jumpers.

Δ 250.30 Grounding Separately Derived Alternating-Current Systems. In addition to complying with 250.30(A) for grounded systems, or as provided in 250.30(B) for ungrounded systems, separately derived systems shall comply with 250.20, 250.21, or 250.26, as applicable. Multiple power sources of the same type that are connected in parallel to form one system that supplies premises wiring shall be treated as a single separately derived system and shall be installed in accordance with 250.30.

An example of multiple power sources of the same type connected in parallel is an emergency or standby (legally required or optional) power system supplied by multiple generators connected to paralleling bus or equipment where the transfer arrangement switches the ungrounded and grounded conductors of the normal and alternate power supplies.

Informational Note No. 1: An alternate ac power source, such as an on-site generator, is not a separately derived system if the grounded conductor is solidly interconnected to a service-supplied system grounded conductor. An example of such a situation is if the alternate source transfer equipment does not include a switching action in the grounded conductor and allows it to remain solidly connected to the service-supplied grounded conductor when the alternate source is operational and supplying the load served.

Informational Note No. 2: See 445.13 for the minimum size of conductors that carry fault current.

In Exhibit 250.12, the neutral conductor from the generator to the load is not disconnected by the transfer switch. The system has a direct electrical connection between the normal grounded

system conductor (neutral) and the generator neutral through the neutral bus in the transfer switch, thereby grounding the generator neutral. Because the grounded circuit conductor is connected to the normal system grounded conductor, it is not a separately derived system and there are no requirements for grounding the neutral at the generator (see Informational Note No. 1 to 250.30).

In Exhibit 250.13, the grounded conductor (neutral) is connected to the switching contacts of a 4-pole transfer switch. The generator system does not have a direct electrical connection to

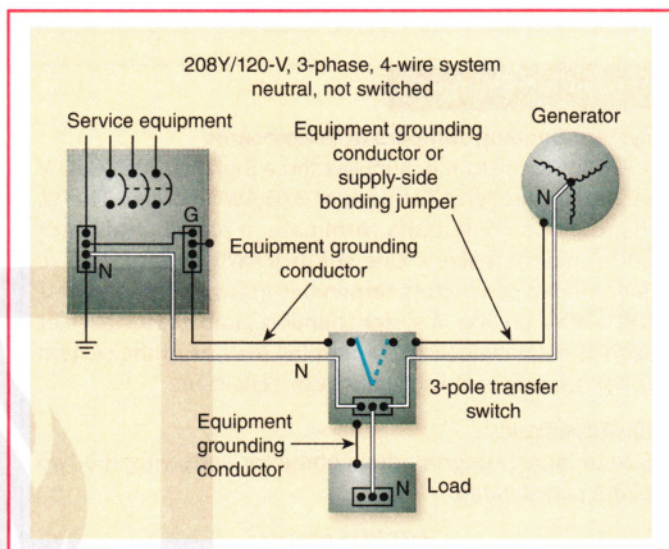


EXHIBIT 250.12 A 208Y/120-volt, 3-phase, 4-wire system that has a direct electrical connection of the grounded circuit conductor (neutral) to the generator and is therefore not considered a separately derived system.

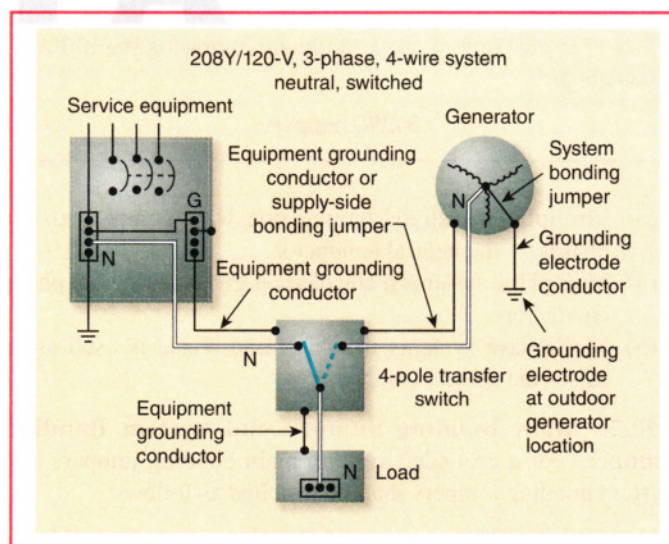


EXHIBIT 250.13 A 208Y/120-volt, 3-phase, 4-wire system that does not have a direct electrical connection of the grounded circuit conductor (neutral) to the generator and is therefore considered a separately derived system.