
Bulletin 26-15-5
Disconnect switch location for furnaces, ground source heat pumps and central units
Rules 26-806, 28-604 and 62-206

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Scope

- 1) Furnaces and central units - definitions
- 2) Location of disconnecting means for furnaces
- 3) Location of disconnecting means for ground source heat pumps
- 4) Location of disconnecting means for central units

1) Furnaces and central units - definitions

Heating equipment referenced by Rule 26-800 includes furnaces that use solid, liquid, or gaseous fuel.

Central unit is defined as “any electrical heating unit (or group of units assembled to form a complete unit) permanently installed in such a way that it can convey heat to rooms or areas using air, liquid, or vapour flowing through pipes or ducts; the term includes duct heaters.” Installation requirements are specified in Rule 62-206.

2) Location of disconnecting means for furnaces

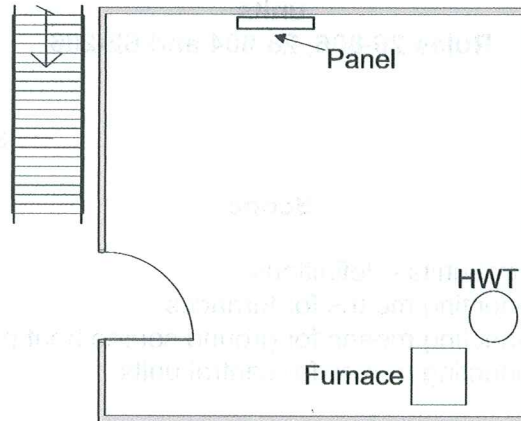
The following requirements apply to furnaces using solid, liquid or gaseous fuel.

Rule 26-806 requires a suitable disconnecting means for the furnace branch circuit. The circuit disconnect switch shall be permitted to be a branch circuit breaker in the panelboard, provided that the panelboard is located between the furnace and the point of entry to the area (room) where the furnace is located, as per Subrule 6) (or may be at the point of entry to the room). The intent of Subrules 6) and 7) is that the panelboard is not located where it can be reached only by passing the furnace. The disconnecting means cannot be mounted on the furnace or in a location which can only be reached by passing close to the furnace, as per Subrule 7).

The following specific examples illustrate the requirements of the rule.

In Figure B1, the panelboard breaker satisfies the rule. The panelboard is not in a location that can only be reached by passing close to the furnace. A separate switch on the path from the stairs to the furnace or on a post near the furnace, in anticipation of a future partition, is also acceptable. The possibility of a future wall around the furnace is not a factor until the wall is built.

Figure B1 – Breaker in a panelboard, acceptable disconnecting means for a furnace



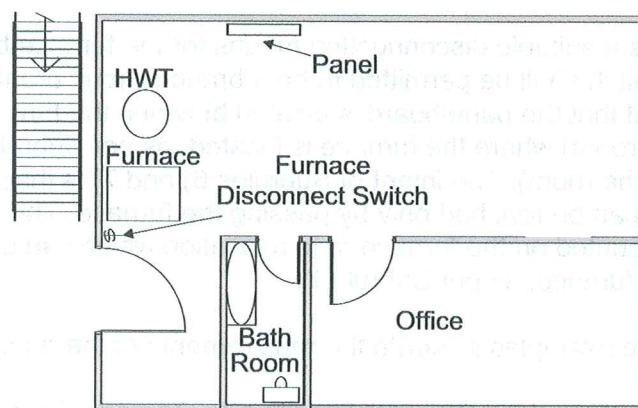
When the panelboard is in an unsuitable location, as shown in Figure B2 (a) and (b), a separate disconnecting switch is required, as per Rule 26-806 7).

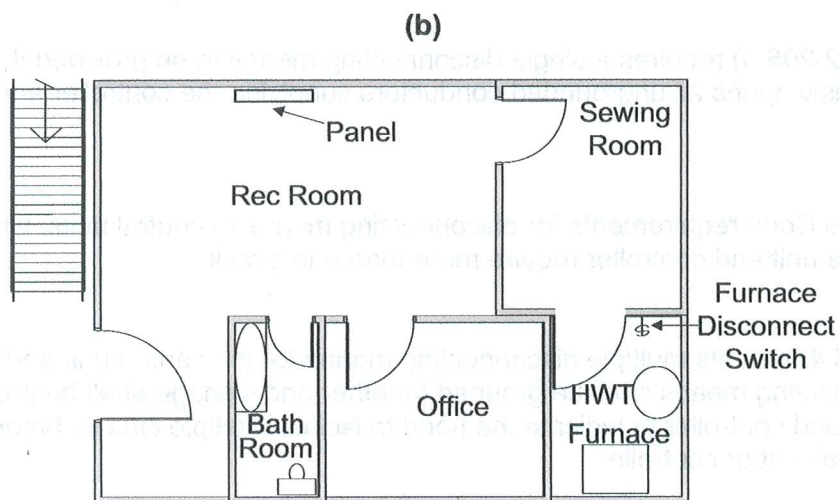
In Figure B2 (a), a separate disconnecting switch is required just beside the entrance to the area where the furnace is located. The panelboard is in an unsuitable location because it is not located between the furnace and the point of entry to the area.

In Figure B2 (b) a separate disconnecting switch is required just beside the entrance to the room where the furnace is located. The panelboard is in an unsuitable location because it is located in a separate room

Figure B2 – Separate disconnecting means required for a furnace

(a)





3) Ground source heat pumps

Question 1

Does a ground source furnace, referred to as a heat pump, require a disconnecting means within 3 m of the compressor? (These heat pumps can sometimes be part of a complete unit that incorporates the compressor, fan unit and even an electric heat section).

Answer 1

Yes, Rule 28-604 5) requires that disconnecting means be installed within 3 m and within sight.

Rationale 1

The motor/compressor unit is usually of the hermetic type and uses a refrigerant to extract heat/cool from the ground source liquid (water, chemicals, glycol, etc). This type of refrigerant compressor falls within the scope of Rule 28-604 5) and requires the disconnect switch within 3 m and within sight.

4) Location of disconnecting means for central units

Background

Central units may or may not have multiple disconnecting means associated with their installation. In some instances up to three disconnect means may be required, see Figure B4. Concern arises about the maintenance of the units and the ability for service personnel to provide adequate isolation for routine maintenance.

Question 2

Does a central unit require a disconnecting means?

Answer 2

Yes, Rule 62-206 3) requires a single disconnecting means to be provided that simultaneously opens all ungrounded conductors supplying the controller and the central unit.

Question 3

What are the Code requirements for disconnecting means to central units, where the supply to the unit and controller require more than one circuit?

Answer 3

Rule 62-206 4) permits multiple disconnecting means for the central unit and controller. The disconnecting means shall be grouped together and signage shall be posted on the central unit and controller to indicate the need to isolate multiple circuits before working on the central unit or controller.

Question 4

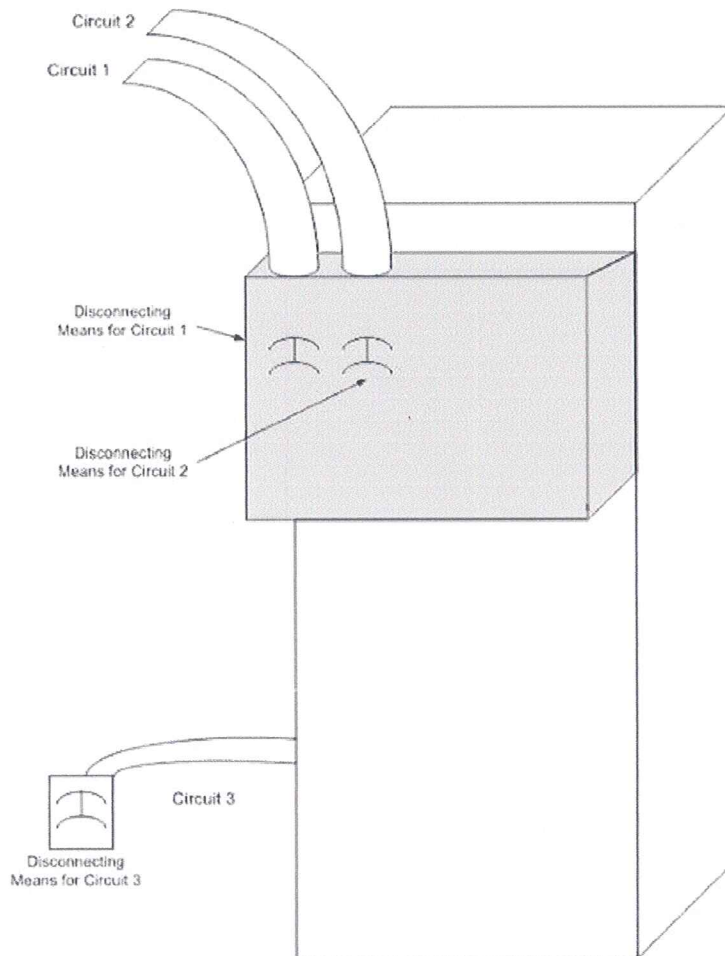
What is the Code requirement regarding the location of disconnecting means for central units?

Answer 4

As per Rule 62-206 5): single or multiple disconnecting means required for a central unit and controller shall be located within sight of and within 9 m of

- (a) the central unit and the controller; or
- (b) an alcove or closet when the central unit and the controller are installed in such a space.

Figure B4 - Disconnecting means required for central heating units



Note

Three branch circuits feeding the central unit, three disconnects complying with Rule 62-206 5) requirements are provided.