

- (1) The motor drives a generator that is provided with overload protection.
- (2) The motor controller is capable of interrupting the locked-rotor current of the motors, is provided with a no voltage release, and is provided with running overload protection not exceeding 125 percent of the motor full-load current rating.
- (3) Separate fuses or an inverse time circuit breaker rated or set at not more than 150 percent of the motor full-load current is provided in the motor branch circuit.

(E) Isolating Switches. For stationary motors rated at more than 40 hp dc or 100 hp ac, the disconnecting means shall be permitted to be a general-use or isolating switch where plainly marked “Do not operate under load.”

(F) Cord-and-Plug-Connected Motors. For a cord-and-plug-connected motor, a horsepower-rated attachment plug and receptacle, flanged surface inlet and cord connector, or attachment plug and cord connector having ratings not less than the motor ratings shall be permitted to serve as the disconnecting means. Horsepower-rated attachment plugs, flanged surface inlets, receptacles, or cord connectors shall not be required for cord-and-plug-connected appliances in accordance with 422.33, room air conditioners in accordance with 440.63, or portable motors rated $\frac{1}{3}$ hp or less.

A motor circuit switch is a horsepower-rated switch capable of interrupting the maximum overload current of a motor (see the definition of *switch, motor-circuit* in Article 100). A molded case switch (nonautomatic circuit interrupter) is a circuit breaker-like device without the overcurrent element and automatic-trip mechanism. It is rated in amperes and is suitable for use as a motor-circuit disconnect based on its ampere rating, as is a circuit breaker. The disconnecting means must be listed.

Exhibits 430.18, 430.19, 430.20, and 430.21 illustrate various methods of providing motor disconnecting means as permitted by 430.109(B), 430.109(C), 430.109(E), and 430.109(F), respectively.

Where horsepower-rated fused switches are required, marking within the enclosure usually permits a dual horsepower rating. The standard horsepower rating is based on the largest non-time-delay (non-dual-element) fuse rating that can be used in the switch and that will permit the motor to start. The maximum horsepower rating is based on the largest rated time-delay (dual-element) fuse that can be used in the switch and that will permit the motor to start. Thus, where time-delay fuses are used, smaller-size switches and fuseholders can be used (see 430.57, Exception).

(G) Torque Motors. For torque motors, the disconnecting means shall be permitted to be a general-use switch.

430.110 Current Rating and Interrupting Capacity.

(A) General. The disconnecting means for motor circuits rated 1000 volts, nominal, or less shall have a current rating not less than 115 percent of the full-load current rating of the motor.

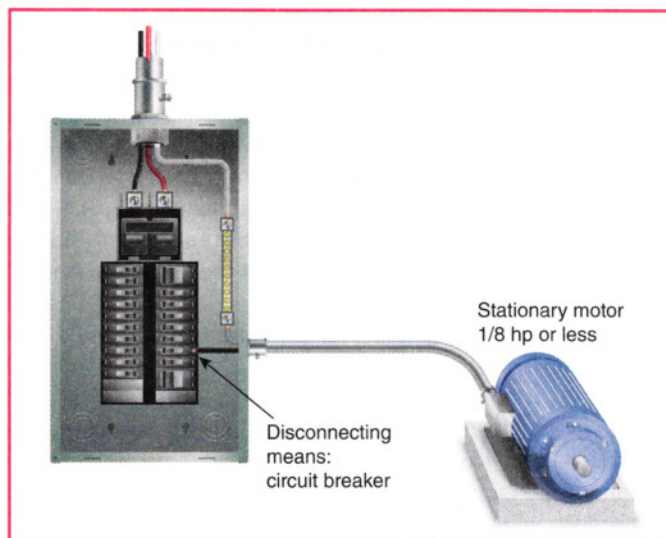


EXHIBIT 430.18 A branch-circuit overcurrent device serving as the disconnecting means for a stationary motor of 1/8 horsepower or less according to 430.109(B).

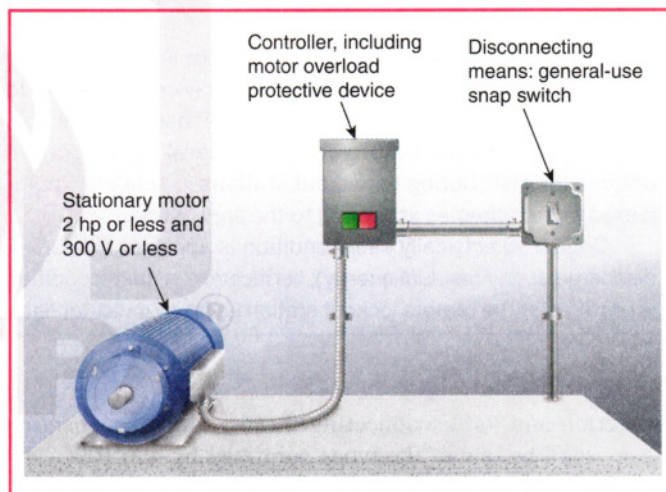


EXHIBIT 430.19 A general-use snap switch serving as the disconnecting means for a stationary motor rated at 2 horsepower or less and at 300 volts or less according to 430.109(C).

Exception: A listed unfused motor-circuit switch having a horsepower rating not less than the motor horsepower shall be permitted to have a current rating less than 115 percent of the full-load current rating of the motor.

(B) For Torque Motors. Disconnecting means for a torque motor shall have a current rating of at least 115 percent of the motor nameplate current.

(C) For Combination Loads. Where two or more motors are used together or where one or more motors are used in combination with other loads, such as resistance heaters, and where the combined load can be simultaneous on a single disconnecting means, the current and horsepower ratings of the combined