See also

404.7 for details on handle positions

240.83(D) for switch duty (SWD) and high-intensity discharge (HID) marking for circuit breakers used as switches

404.12 Grounding of Enclosures. Metal enclosures for switches or circuit breakers shall be connected to an equipment grounding conductor as specified in Part IV of Article 250. Metal enclosures for switches or circuit breakers used as service equipment shall comply with the provisions of Part V of Article 250. Where nonmetallic enclosures are used with metal raceways or metal-armored cables, they shall comply with 314.3, Exception No. 1 or No. 2.

Except as covered in 404.9(B), Exception No. 1, nonmetallic boxes for switches shall be installed with a wiring method that provides or includes an equipment grounding conductor.

404.13 Knife Switches.

(A) Isolating Switches. Knife switches rated at over 1200 amperes at 250 volts or less, and at over 1000 amperes at 251 to 1000 volts, shall be used only as isolating switches and shall not be opened under load.

(B) To Interrupt Currents. To interrupt currents over 1200 amperes at 250 volts, nominal, or less, or over 600 amperes at 251 to 1000 volts, nominal, a circuit breaker or a switch listed for such purpose shall be used.

(C) General-Use Switches. Knife switches of ratings less than specified in 404.13(A) and (B) shall be considered general-use switches.

Informational Note: See Article 100 for the definition of *general-use switch*.

Δ **(D) Motor-Circuit Switches.** Motor-circuit switches shall be permitted to be of the knife-switch type.

Informational Note: See Article 100 for the definition of *motor-circuit switch*.

Δ **404.14 Rating and Use of Switches.** Switches shall be listed and marked with their ratings. Switches of the types covered in 404.14(A) through (F) shall be limited to the control of loads as specified accordingly. Switches used to control cord-and-plug-connected loads shall be limited as covered in 404.14(G).

Informational Note No. 1: See 600.6 for switches for signs and outline lighting.

Informational Note No. 2: See 430.83, 430.109, and 430.110 for switches controlling motors.

(A) Alternating-Current General-Use Snap Switch. This form of switch shall only be used on ac circuits and used for controlling the following:

(1) Resistive and inductive loads not exceeding the ampere rating of the switch at the voltage applied
(2) Tungsten-filament lamp loads not exceeding the ampere rating of the switch at 120 volts
(3) Electric discharge lamp loads not exceeding the marked ampere and voltage rating of the switch
(4) Motor loads not exceeding 80 percent of the ampere rating of the switch at its rated voltage
(5) Electronic ballasts, self-ballasted lamps, compact fluorescent lamps, and LED lamp loads with their associated drivers, not exceeding 20 amperes and not exceeding the ampere rating of the switch at the voltage applied

(B) Alternating-Current or Direct-Current General-Use Snap Switch. This form of switch shall be permitted on either ac or dc circuits and used only for controlling the following:

(1) Resistive loads not exceeding the ampere rating of the switch at the voltage applied.
(2) Inductive loads not exceeding 50 percent of the ampere rating of the switch at the applied voltage. Switches rated in horsepower are suitable for controlling motor loads within their rating at the voltage applied.
(3) Tungsten-filament lamp loads not exceeding the ampere rating of the switch at the applied voltage if T-rated.
(4) Electronic ballasts, self-ballasted lamps, compact fluorescent lamps, and LED lamp loads with their associated drivers, not exceeding the ampere rating of the switch at the voltage applied.

(C) CO/ALR Snap Switches. Snap switches directly connected to aluminum conductors and rated 20 amperes or less shall be marked CO/ALR.

N **(D) Snap Switch Terminations.** Snap switch terminations shall be in accordance with the following:

(1) Terminals of 15-ampere and 20-ampere snap switches not marked CO/ALR shall be used with copper and copper-clad aluminum conductors only.
(2) Terminals marked CO/ALR shall be permitted to be used with copper, aluminum, and copper-clad aluminum conductors.
(3) Snap switches connected using screwless terminals of the conductor push-in type construction (also known as conductor push-in terminals) shall be installed on not greater than 15-ampere branch circuits and shall be connected with 14 AWG solid copper wire only unless listed and marked for other types of conductors.

(E) Alternating-Current General-Use Snap Switches Rated for 347 Volts. This form of switch shall not be rated less than 15 amperes at a voltage of 347 volts ac, and they shall not be readily interchangeable in box mounting with switches covered in 404.14(A) and (B). These switches shall be used only for controlling any of the following:

(1) Noninductive loads other than tungsten-filament lamps not exceeding the ampere and voltage ratings of the switch.
(2) Inductive loads not exceeding the ampere and voltage ratings of the switch. Where particular load characteristics or