

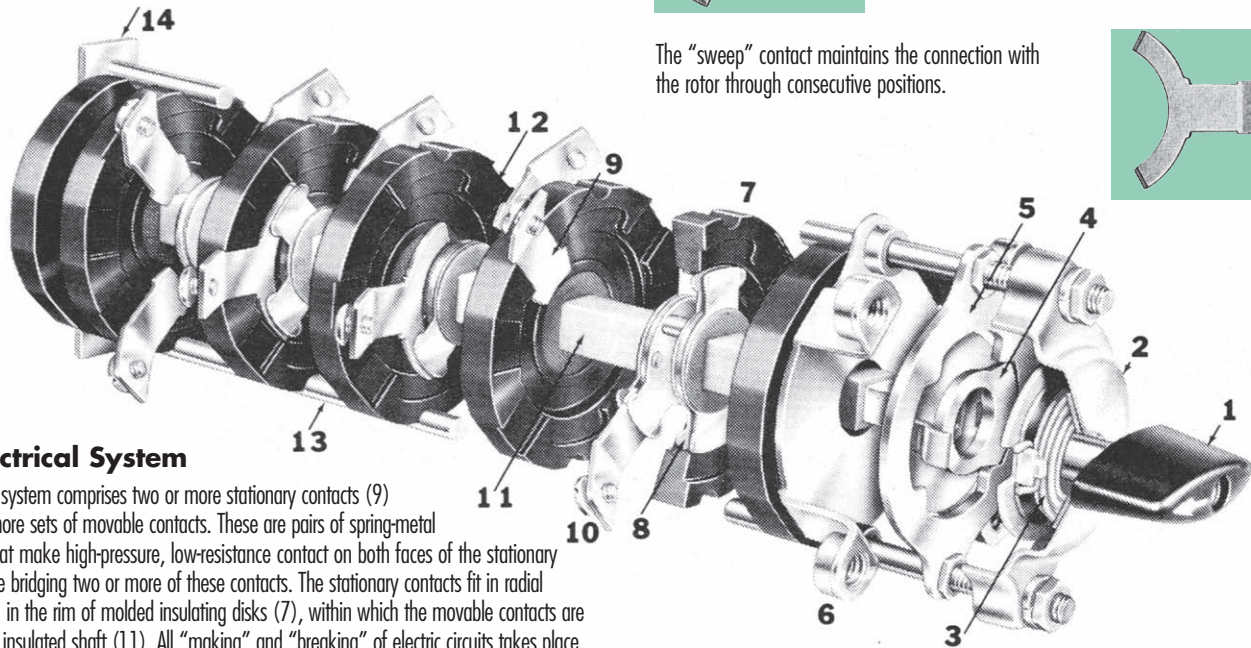


CONSTRUCTION DETAILS

SNAP-ACTION SWITCHES

Snap-Action Switches

Snap-Action Switches use a design that enables them to combine a small number of basic parts to satisfy a wide variety of requirements for selector and control switching of power circuits. Standard switches built with this design for 15-, 40-, 60-, and 200-ampere capacities are listed in this catalog. However, the cataloged units merely indicate switching possibilities; we will gladly recommend other combinations, based on our experience, for specific requirements.



The Electrical System

The electrical system comprises two or more stationary contacts (9) and one or more sets of movable contacts. These are pairs of spring-metal blades (8) that make high-pressure, low-resistance contact on both faces of the stationary contacts while bridging two or more of these contacts. The stationary contacts fit in radial grooves (12) in the rim of molded insulating disks (7), within which the movable contacts are carried on an insulated shaft (11). All "making" and "breaking" of electric circuits takes place within the closed spaces between adjacent disks. Their quick-break action makes these switches particularly suitable for direct-current service. The ends of the stationary contacts extend outside the insulating disks and serve as connecting terminals (10). This one-piece contact/terminal construction minimizes series resistance and heating. Depending on current rating and on-wiring requirements, the terminals may have tapped holes for connecting screws or clearance holes for bolt connection of cable-lugs.

The Mechanical System

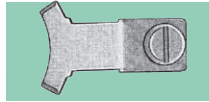
The mechanical system is designed to provide uniform high-speed "make" and "break", regardless of whether the operating handle (1) is turned rapidly or slowly. Turning the handle through approximately 120° in either direction winds a powerful coil spring (3). When this is fully wound, the indexing plate (4) is momentarily withdrawn from the locking plate (5) by an eccentric cam. The drive-shaft and movable contacts then snap rapidly to the next position. The indexing plate holds them until the spring-drive mechanism is again operated. Transit time is about ten milliseconds.

Assembly

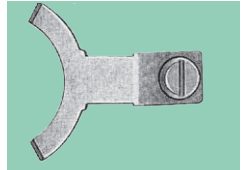
The snap-drive mechanism, mechanism-cover (2), locking plate, mounting bracket (6), insulating disks, and back plate (14) are stacked on side securing rods (13) and bolted firmly together to form a rigid assembly. The handle is keyed to the operating shaft and secured by a screw.

Stationary Contacts

Non-shorting (break-before-make) contacts are standard in all the ratings and circuits shown in this catalog.



Shorting (make-before-break) contacts, required in some special circuits, are available on order.



The "sweep" contact maintains the connection with the rotor through consecutive positions.

Moveable Contacts (Rotors)

The simple, straight-across rotor bridges stationary contacts in the same insulating disk. It provides single-throw switching in Circuit 1 and double-throw switching in Circuit 6.

The right-angle-blade rotor provides a double-throw switching, with an intermediate OFF position, in Circuit 7.

A multi-fingered blade is combined with a single-contact blade to form a composite (double-deck) rotor that interconnects stationary contacts in adjacent disks. Suitable blade arrangements provide double-throw, triple-throw, or four-throw switching.

Insulating Disks (and Circuits)

The insulating disks, molded of phenolic per MIL-M-14, have three functions. They hold the stationary contacts, they form enclosures that contain all making and breaking contacts, and they provide both mechanical and electrical separation of switching sections.

