

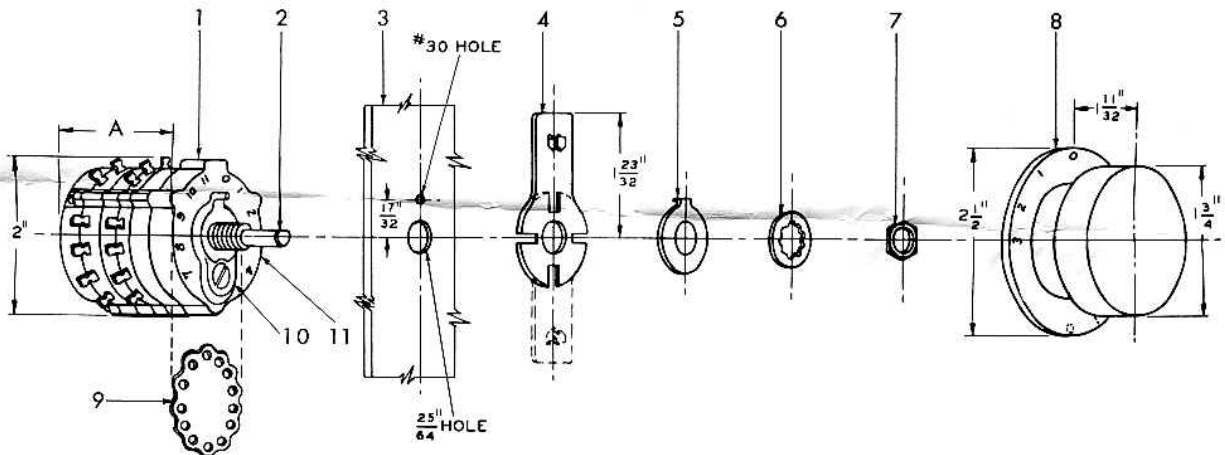
**ROTARY SELECTOR SWITCHES
12-POSITION AND 16-POSITION**

1. GENERAL DESCRIPTION

These selector switches are provided in combinations of one to six poles (with two wafers per pole) and either 12 positions or 16 positions per pole as shown in the table. These switches are the shorting type: that is, as the shaft is rotated the brush makes contact with the next segment before breaking contact with the preceding segment. The stationary contacts are made of solid silver while the self-aligning brushes are made of durable silver alloy having low contact resistance and low thermal emf.

The 12-position switch is totally enclosed within molded Lexan* wafers to assure dust free operation and high insulating qualities. The 16-position switch is totally enclosed within molded alkyd wafers for the same reasons. The shaft of both the 12-position and 16-position switch is made of molded acrylonitrile-styrene copolymer and is supported at both ends. The detent action is adjustable by screw 1 (see figure) from no action to stiff operation. Each switch has a cast aluminum base with a bronze bearing insert and operates within the range of -65°C to $+75^{\circ}\text{C}$. It should be noted that this type switch cannot be disassembled without damaging its effective operation; therefore, no attempt should be made to take the switch apart. Care should also be exercised in the selection of soldering flux and the method of soldering.

The switch is designed for the mounting of stops, which, when used, limit the degree of shaft rotation. These stops are mounted on a detent plate 9, inside the switch head 11. The detent plate is accessible by removal of screw 10 on the front of the switch. For further information on mounting stops, refer to Section 2(8).



*G.E. Co. trademark.

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The information contained in this paragraph provides data for electrical testing of the switch. That is, contact resistance is 0.001 ohm (± 0.0005) and maximum inductance is less than 0.03 microhenry. The capacitance between positions is less than 1.0 picofarad for the 12-position switch and less than 2.0 picofarads for the 16-position switch. Current interrupting capacity is one (1) ampere at 115 volts 60 cycles using a resistance load, and continuous current carrying capacity is 5 amperes. The thermal emf is less than 1.0 microvolt of momentary duration with switch operated at normal speed. Voltage breakdown is greater than 1500 volts rms between switch positions or from any switch position to ground for the 12-position switch and greater than 1000 volts rms for the 16-position switch. Conductance is less than 0.0005 micromho for both the 12-position and 16-position switch. The insulation resistance of the 12-position switch is greater than 10^{12} ohms after two months at 100 percent relative humidity when clean. The similar resistance of the 16-position switch is greater than 10^{12} ohms new, and greater than 5×10^8 ohms after two months at 100% relative humidity when clean.

2. MOUNTING

(1) The method of mounting the switch on a panel is illustrated in the figure. (The knob and dial unit and index are separately purchased items.) Dimension A is listed in the following table for each switch.

12-POSITION SWITCHES

<u>Switch No.</u>	<u>No. Poles</u>	<u>Dimension A</u>
031261	1	1-19/32"
031262	2	2-5/16"
031263	3	3"
031264	4	3-11/16"
031265	5	4-3/8"
031266	6	5-1/16"

16-POSITION SWITCHES

<u>Switch No.</u>	<u>No. Poles</u>	<u>Dimension A</u>
031142	1	1-19/32"
031272	2	2-5/16"
031273	3	3"
031274	4	3-11/16"
031275	5	4-3/8"
031276	6	5-1/16"

(2) The switch is in zero position when the flat on the shaft is adjacent to the switch locating pin as shown at 2.

(3) Drill panel 3 as shown. For mounting switch on panels over 1/4" thick, counterbore the underside of panel to 2-1/8" in diameter, 1/4" thickness.