## 2

TOGGLE SWITCHES

## Special Purpose Heavy Duty and Heavy Duty Hesitation Switches

## DESCRIPTION

## One Hole Panel Mount

These heavy duty toggle switches are available in either two or three position. The three position switches offer a unique positive center stop feature which assures that the lever cannot be thrown from one side through the center "OFF" position without stopping. This design feature is a major factor in their widespread
acceptance for motor reversing and speed control applications. The most common application for the switch is to help prevent motor damage resulting from the high current generation by counter EMF of the armature at the time of reversing. This type of device is referred to within the industry as an anti-plugging, hesitation, positive stop or positive off switch. Typical applications include bench tools, coach and truck (electric lift) and $X$-Ray equipment.

## Flush Mount

These three position switches also offer the positive center stop feature where the lever cannot be thrown from one side through the center "OFF" position without stopping. The high ratings of this series allow it to be used with a broad range of heavy duty applications. Copper contacts and brass screw terminals are standard.

ONE HOLE PANEL MOUNT SWITCH SELECTION TABLE (BOLD FACE TYPE INDICATES ITEMS NORMALLY IN DISTRIBUTOR STOCK)

| Rating | Poles and Throw | Circuit with Toggle in |  |  | BASE CIRCUIT SEE PAGE 4.28 | Bushing Length mm (inches) | Lever Length mm (inches) | Lever Type | CATALOG NUMBERS <br> Screw Terminals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | UP Position TIIP | CENTER Position $\square$ | DOWN <br> Position <br> IIIS <br> (Keyway) |  |  |  |  |  |
| ONE HOLE PANEL MOUNT |  |  |  |  |  |  | ONE HOLE PANEL MOUNT |  |  |
| $14 \mathrm{~A}, 125 \mathrm{~V}$ ac/dc <br> $7 \mathrm{~A}, 250 \mathrm{~V}$ ac/dc $3 / 4 \mathrm{Hp}, 125-250 \mathrm{~V}$ ac/dc | 2 P. D.T. | $\begin{aligned} & \mathrm{ON} \\ & \mathrm{ON} \end{aligned}$ | NONE OFF | $\begin{aligned} & \mathrm{ON} \\ & \mathrm{ON} \end{aligned}$ | D | $\begin{aligned} & 10.31 \text { (.406) } \\ & 10.31 \text { (.406) } \end{aligned}$ | $\begin{aligned} & 13.49 \text { (.531) } \\ & 13.49 \text { (.531) } \end{aligned}$ | $\begin{aligned} & \text { Ball } \\ & \text { Ball } \end{aligned}$ | $\begin{aligned} & 7814 K 1 \\ & 7814 K 2 \end{aligned}$ |
| $15 \mathrm{~A}, 125 \mathrm{~V}$ ac © $10 \mathrm{~A}, 250 \mathrm{~V}$ ac $3 / 4 \mathrm{Hp}, 250 \mathrm{Vac}$ | 2 P. D.T. | ON | OFF | ON | D | 11.89 (.468) | 17.45 (.687) | Bat | 7992K10 |
| $10 \mathrm{~A}, 125 \mathrm{Vac} / \mathrm{dc}$ <br> $5 \mathrm{~A}, 250 \mathrm{Vac} / \mathrm{dc}$ | 3 P. D.T. | ON | OFF | ON | F | 10.31 (.406) | 13.49 (.531) | Ball | 7815K3 |
| $15 \mathrm{~A}, 125 \mathrm{~V}$ ac © $10 \mathrm{~A}, 250 \mathrm{~V}$ ac $3 / 4 \mathrm{Hp}, 250 \mathrm{~V}$ ac | 3 P. D.T. | ON | OFF | ON | F | 11.89 (.468) | 17.45 (.687) | Bat | 7991K10 |
| $10 \mathrm{~A}, 125 \mathrm{~V}$ ac/dc $5 \mathrm{~A}, 250 \mathrm{Vac} / \mathrm{dc}$ | 4 P. D.T. | ON | NONE | ON | F | 10.31 (.406) | 13.49 (.531) | Ball | 7815K12 |
| $10 \mathrm{~A}, 125 \mathrm{~V}$ ac/dc <br> $5 \mathrm{~A}, 250 \mathrm{Vac} / \mathrm{dc}$ <br> $1 / 2 \mathrm{Hp}, 125-250 \mathrm{~V}$ ac/dc | 4 P. D.T. | ON | OFF | ON | F | 10.31 (.406) | 13.49 (.531) | Ball | 7816K2 |
| $15 \mathrm{~A}, 125 \mathrm{~V}$ ac $\mathbf{0}$ $10 \mathrm{~A}, 250 \mathrm{~V}$ ac $3 / 4 \mathrm{Hp}, 250 \mathrm{~V}$ ac | 4 P. D.T. | ON | OFF | ON | F | 11.89 (.468) | 17.45 (.687) | Bat | 7990K10 |

## FLUSH MOUNT SWITCH SELECTION TABLE

| Rating | Poles and Throw | Circuit with Toggle in |  |  | Lever Type | Type of Termination | CATALOG NUMBERS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | UP Position TIIP | CENTER Position $\square I T H$ | DOWN Position IIIIb (Keyway) |  |  |  |
| FLUSH MOUNT SWITCH |  |  |  |  |  | FLUSH MOUNT SWITCH |  |
| 20A, 125 V ac/dc <br> $10 \mathrm{~A}, 250 \mathrm{Vac} / \mathrm{dc}$ | 2 P. D.T | $\begin{aligned} & \mathrm{ON} \\ & \mathrm{ON} \end{aligned}$ | NONE OFF | $\begin{aligned} & \mathrm{ON} \\ & \mathrm{ON} \end{aligned}$ | Square Square | Screw Screw | $\begin{gathered} \text { 7810K1 } \\ 7810 \mathrm{~K} 2 \text { ©® } \end{gathered}$ |
| $30 \mathrm{~A}, 125 \mathrm{~V} \mathrm{ac} / \mathrm{dc}$ 20A, 250V ac/dc | 2 P. D.T. | ON | OFF | ON | Square | Screw | 7811K2 1 ¢ |
|  | 3 P. D.T. | ON | OFF | ON | Square | Screw | 7812K2 |
|  | 4 P. D.T. | ON | OFF | ON | Square | Screw | 7813K2 |

## SPECIFICATIONS

## Ratings:

See selection tables.

## Circuits:

2PDT, 3PDT, 4PDT.
Maintained action.

## Contact Mechanism:

## One Pole Panel Mount

AC Rated Devices -
Slow-make/Slow-break butt contact.
AC/DC Rated Devices -
Quick-make/Quick-break wiping contacts.

## Flush Mount

Quick-make/Quick-break wiping contacts.

## Contact Material:

## One Pole Panel Mount

AC Rated Devices -
Movable - Silver plated copper with fine or coin silver contact face button. Stationary - Copper with fine or coin silver contact face button.
AC/DC Rated Devices -
Movable - Copper.
Stationary - Bronze.

Flush Mount
Movable - Copper.
Stationary - Copper.
Terminal Types:
Screw Terminals - Brass.
Mounting Means:
One Pole Panel Mount
AC Rated Devices -
Threaded Bushing -
11.89 mm (. $468^{\prime \prime}$ ) dia., 32 threads/inch.
Keyway - $1.73 \times .89 \mathrm{~mm}$ deep (. $068 \times .035$ " deep), provide anti-rotation feature.
Hardware Supplied -
1 hexagon locknut
(Cat No.15-192) and 1 hex facenut (Cat No. 15-966-2). Furnished unassembled.
AC/DC Rated Devices -
Threaded Bushing $19.05 \mathrm{~mm}\left(.750^{\prime \prime}\right)$ dia., 32 threads/inch.
Keyway $-2.59 \times 2.64 \mathrm{~mm}$
(. $102 \times .104^{\prime \prime}$ ) x
$1.04 \times 1.09 \mathrm{~mm}$
(.041-.043") deep.

Hardware Supplied -
2 hexnuts
(Cat No. 15-1043).
Furnished unassembled.

## Flush Mount

Flush mounting panel tabs.

## Dielectric Withstand:

1,000V RMS minimum.

## Operating

 Temperature Range:$-17.8^{\circ} \mathrm{C}$ to $+65.6^{\circ} \mathrm{C}$ ( $0^{\circ} \mathrm{F}$ to $+150^{\circ} \mathrm{F}$ ).

## Approvals:

UL Recognized (except where noted).
CSA Certified (where noted).
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7810K2
Flush Mount


