# **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)

		Circuit with Toggle in							CATALOG NUMBERS		
Rating	Poles and Throw	UP Position	CENTER Position	DOWN Position (Keyway)	BASE CIRCUIT SEE PAGE 4.28	Bushing Length mm (inches)	Lever Length mm (inches)	Lever Type	Screw Terminals		
ONE HOLE PANEL MOUNT						ONE HOLE PANEL MOUNT					
14A, 125V ac/dc 7A, 250V ac/dc 3/4 Hp, 125-250V ac/dc	2 P. D.T.	ON ON	NONE OFF	ON ON	D	10.31 (.406) 10.31 (.406)	13.49 (.531) 13.49 (.531)	Ball Ball	7814K1 <b>7814K2</b>		
15A, 125V ac <b>1</b> 10A, 250V ac 3/4 Hp, 250V ac	2 P. D.T.	ON	OFF	ON	D	11.89 (.468)	17.45 (.687)	Bat	7992K10		
10A, 125V ac/dc 5A, 250V ac/dc	3 P.D.T.	ON	OFF	ON	F	10.31 (.406)	13.49 (.531)	Ball	7815K3		
15A, 125V ac <b>1</b> 10A, 250V ac 3/4 Hp, 250V ac	3 P. D.T.	ON	OFF	ON	F	11.89 (.468)	17.45 (.687)	Bat	7991K10		
10A, 125V ac/dc 5A, 250V ac/dc	4 P. D.T.	ON	NONE	ON	F	10.31 (.406)	13.49 (.531)	Ball	7815K1 <b>②</b>		
10A, 125V ac/dc 5A, 250V ac/dc 1/2 Hp, 125-250V ac/dc	4 P. D.T.	ON	OFF	ON	F	10.31 (.406)	13.49 (.531)	Ball	7816K2		
15A, 125V ac <b>①</b> 10A, 250V ac 3/4 Hp, 250V ac	4 P. D.T.	ON	OFF	ON	F	11.89 (.468)	17.45 (.687)	Bat	7990K10		

- 1 Listed Rating for 125V ac also applies at 28V dc.
- 2 Not UL Recognized.

#### FLUSH MOUNT SWITCH SELECTION TABLE

		Circuit with Toggle in							
Rating	Poles and Throw	UP Position	CENTER Position	DOWN Position (Keyway)	Lever Type	Type of Termination	CATALOG NUMBERS		
	FLU	JSH MOUNT	SWITCH		FLUSH MOUNT SWITCH				
20A, 125V ac/dc 10A, 250V ac/dc	2 P. D.T	ON ON	NONE OFF	ON ON	Square Square	Screw Screw	7810K1 7810K2 <b>⊕⊘</b>		
	2 P. D.T.	ON	OFF	ON	Square	Screw	7811K2 <b>0 3</b>		
30A, 125V ac/dc 20A, 250V ac/dc	3 P.D.T.	ON	OFF	ON	Square	Screw	7812K2		
	4 P. D.T.	ON	OFF	ON	Square	Screw	7813K2		

- CSA Certified.
- 2 Also rated 5A, 600V ac; 1-1/2 Hp, 250V dc; 2 Hp, 240V ac.
- 3 Also rated 2 Hp, 250V ac/dc.

## **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 — 11.89mm (.468") dia., 32 threads/inch.

Keyway — 1.73 x .89mm deep (.068 x .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 mm (.750") dia.,
32 threads/inch.

Keyway — 2.59 x 2.64mm
(.102 x .104") x
1.04 x 1.09mm
(.041 - .043") deep.

Hardware Supplied —

Furnished unassembled.

Flush Mount

2 hexnuts (Cat No. 15-1043).

Flush mounting panel tabs.

#### Dielectric Withstand:

1,000V RMS minimum.

# Operating Temperature Range:

 $-17.8^{\circ}$ C to  $+65.6^{\circ}$ C (0°F to  $+150^{\circ}$ F).

#### Approvals:

UL Recognized (except where noted). CSA Certified (where noted).





FAT•N

7814K2 Panel Mount



7815K1 Panel Mount



7810K2 Flush Mount



7811K2 Flush Mount

2.21