

### SPECIFICATIONS

**CONTACT RATING:** 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC.  
**ELECTRICAL LIFE:** 100,000 make-and-break cycles at full load on all models ending in -01 (ON-NONE-ON). All other models, 40,000 cycles.  
**CONTACT RESISTANCE:** Below 10 milliohms typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.  
**INSULATION RESISTANCE:** 10<sup>9</sup> ohms min.  
**DIELECTRIC STRENGTH:** 1,000 V RMS min. @ sea level.  
**OPERATING TEMPERATURE:** -30°C to 85°C.

### MATERIALS

**CASE:** SP & DP- diallyl phthalate (DAP) or melamine phenolic.  
 3P & 4P- diallyl phthalate (DAP).  
**ACTUATOR:** Nylon, black, std.  
**BUSHING:** Brass, nickel plated or zinc, nickel plated.  
**HOUSING:** Stainless steel.  
**SWITCH SUPPORT:** Brass or steel, electrotin plated.  
**MOUNTING BRACKET:** Stainless steel.  
**END CONTACTS:** Coin silver, silver plated (Q cont. mat'l.).  
**CENTER CONTACT & ALL TERMINALS:** Brass, silver plated (Q cont. mat'l.).  
**HARDWARE:** Nut- Stainless steel.  
 Screw- Stainless steel.  
 Lockwasher- Stainless steel.  
 Standoff- Aluminum or nylon.

### NOTE

Specifications and Materials listed above are general specifications for switches with standard options. See option sections for additional information. Specifications available for specific models, consult factory.

### INTRODUCTION

Available options for 7000 SERIES ROCKER AND LEVER HANDLE SWITCHES are shown on pages A-14 thru A-30. Make selections from the following option sections: Model/Switching Function, Actuator/Mounting Style, Terminations, Contact

Material and (if desired) Epoxy Terminal Seal. Each section begins with the ordering format, with the appropriate boxes enlarged. Complete HOW TO ORDER information is on page A-30. Available hardware and accessories shown on pages A-31 and A-32.

UL, CSA listings available. See HOW TO ORDER, page A-30.

MODEL/SW. FUNC.

			J						
--	--	--	---	--	--	--	--	--	--

## MODELS/SWITCHING FUNCTION

MODEL NO.	UL MODEL NO.	SWITCHING FUNCTION		
		POS 1	POS 2	POS 3
7101	U11	ON	NONE	ON
7103	U13	ON	OFF	ON
7105	U15	MOM.	OFF	MOM.
7107	U17	ON	OFF	MOM.
7108	U18	ON	NONE	MOM.
CONNECTED TERMINALS		2-3	OPEN	2-1
7109	U19	NONE	ON	MOM.
CONNECTED TERMINALS		N/A	2-3	2-1
SCHEMATIC				
MOM. = MOMENTARY POSITION				
7201	U21	ON	NONE	ON
7203	U23	ON	OFF	ON
7205	U25	MOM.	OFF	MOM.
7207	U27	ON	OFF	MOM.
7208	U28	ON	NONE	MOM.
CONNECTED TERMINALS		2-3,5-6	OPEN	2-1,5-4
7209	U29	NONE	ON	MOM.
CONNECTED TERMINALS		N/A	2-3,5-6	2-1,5-4
7211	U211	ON	ON	ON
7213	U213	ON	ON	MOM.
7215	U215	MOM.	ON	MOM.
CONNECTED TERMINALS		2-3,5-6	2-3,5-4	2-1,5-4
SCHEMATIC				
MOM. = MOMENTARY POSITION				

**SPDT**

MODEL SHOWN: 7101-J1-Z-Q

**DPDT**

MODEL SHOWN: 7201-J1-Z-Q

C&K COMPONENTS, INC. 15 Riverdale Ave. Newton, MA 02158-1082

Tel: (617) 964-6400, Telex: 92-2544, TWX: 710-335-1163

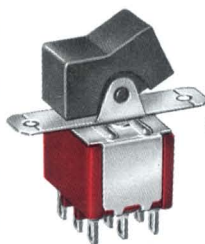
A-14

MODEL/SW. FUNC.

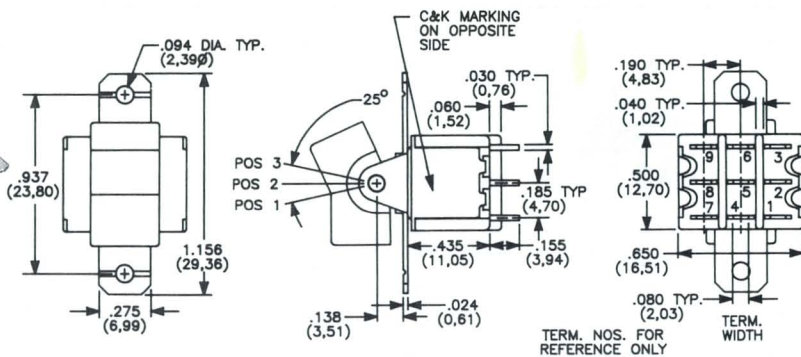


## MODELS/SWITCHING FUNCTION (cont'd.)

MODEL NO.	UL MODEL NO.	SWITCHING FUNCTION		
		POS 1 C&K MARKING THIS SIDE	POS 2	POS 3
7301	U31	ON	NONE	ON
7303	U33	ON	OFF	ON
7305	U35	MOM.	OFF	MOM.
7307	U37	ON	OFF	MOM.
7308	U38	ON	NONE	MOM.
CONNECTED TERMINALS		2-3,5-6, 8-9	OPEN	2-1,5-4, 8-7
7309	U39	NONE	ON	MOM.
CONNECTED TERMINALS		N/A	2-3,5-6, 8-9	2-1,5-4, 8-7
SCHEMATIC				

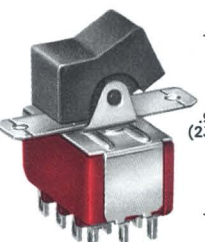


3PDT

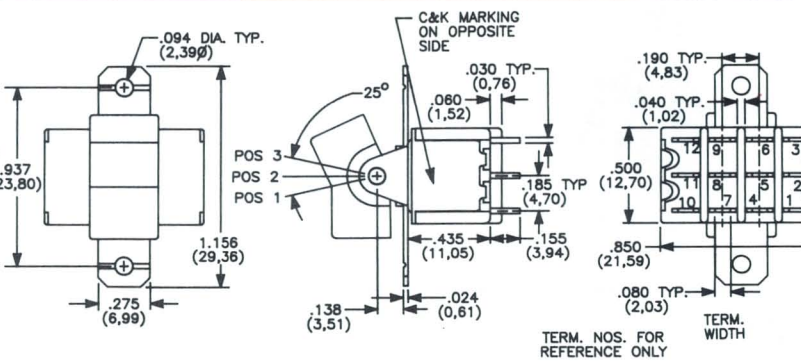


MODEL SHOWN: 7301-J1-Z-Q

MOM. = MOMENTARY POSITION				
7401	U41	ON	NONE	ON
7403	U43	ON	OFF	ON
7405	U45	MOM.	OFF	MOM.
7407	NOT UL	ON	OFF	MOM.
7408	U48	ON	NONE	MOM.
CONNECTED TERMINALS		2-3,5-6, 8-9,11-12	OPEN	2-1,5-4, 8-7,11-10
7409	U49	NONE	ON	MOM.
CONNECTED TERMINALS		N/A	2-3,5-6, 8-9,11-12	2-1,5-4, 8-7,11-10
7411*	U411	ON	ON	ON
7413*	U413	ON	ON	MOM.
7415*	U415	MOM.	ON	MOM.
CONNECTED TERMINALS		2-3,5-6, 8-9,11-12	2-3,5-4, 8-9,11-10	2-1,5-4, 8-7,11-10
SCHEMATIC				
MOM. = MOMENTARY POSITION				

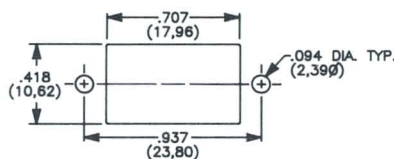


4PDT



MODEL SHOWN: 7401-J1-Z-Q

### PANEL MOUNTING



\* WIRING FOR 3-WAY SWITCH, SEE PAGE VIII .

## INTRODUCTION TO ACTUATOR / MOUNTING STYLE OPTIONS

7000 Series ACTUATOR / MOUNTING STYLE OPTIONS are shown on pages A-16 thru A-24, grouped by mounting style:

Panel Mounted Actuator Options: .....Pages A-16, A-17.  
(avail. with Z, C, Z3 or W-W5 terminations)

Snap-In Front Mounted Actuator Options: .....Pages A-18 thru A-21.  
(avail. with Z, C, Z3, or W-W5 terminations, SPDT and DPDT models only)

Rear mounted Actuator Options: .....Pages A-22, A-23.  
(avail. with Z, C, Z3, or W-W5 terminations)

PC. Mounted Actuator Options: .....Pages A-23, A-24.  
(avail. with A, AV2, V3-V9 terminations)

Note terminations available with each mounting style. Select actuator color from chart at right. Also select frame color from chart, unless option desired has separate frame color chart. Add actuator and, where applicable, frame color in word form after order number. If no color is specified, black will be supplied. See HOW TO ORDER, page A-30. Actuator and frame finish: matte.

L.E.D.s not included on J52, J62, J92 actuators. For L.E.D. information, see page A-25.

ACTUATOR AND FRAME COLORS	
1	White
2	Black(Std.)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

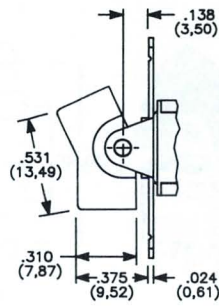
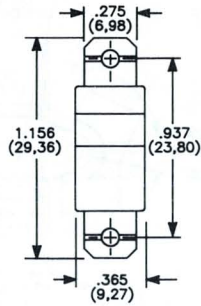
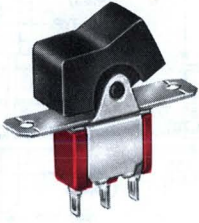
ACT./MTG. STYLE



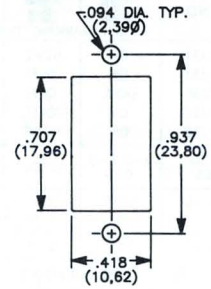
**ACTUATOR OPTIONS FOR PANEL MOUNTING**

Available with Z, C, Z3 or W-W5 terminations.  
Available actuator colors, see page A-15.

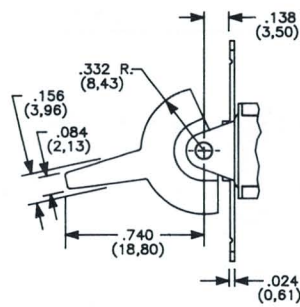
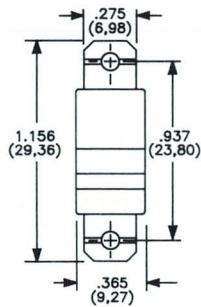
**J1**



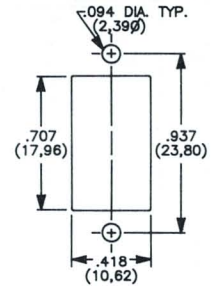
PANEL MOUNTING



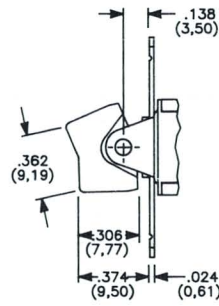
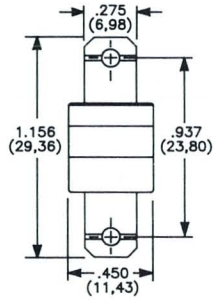
**J2**



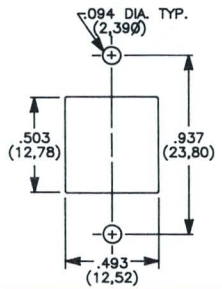
PANEL MOUNTING



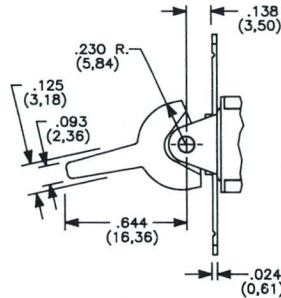
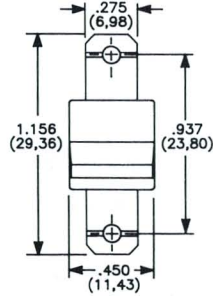
**J54**



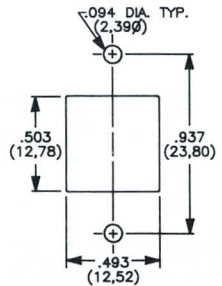
PANEL MOUNTING



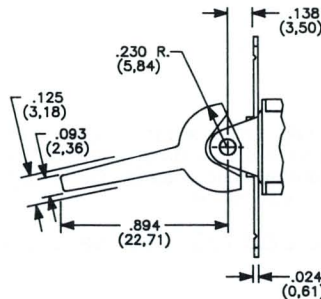
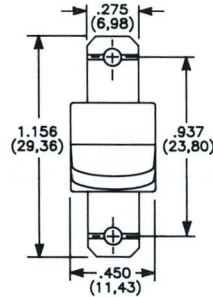
**J64**



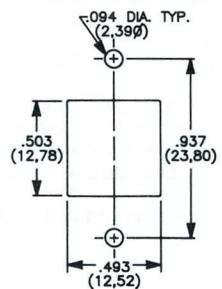
PANEL MOUNTING



**J94**



PANEL MOUNTING



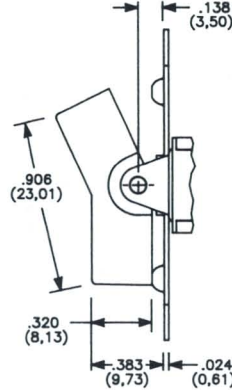
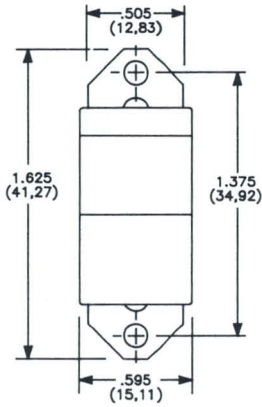
ACT./MTG. STYLE



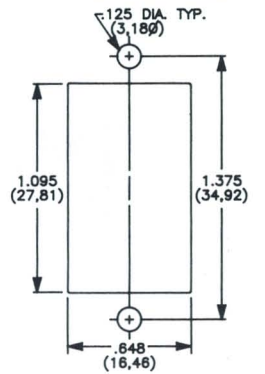
**ACTUATOR OPTIONS FOR PANEL MOUNTING (cont'd.)**

Available with Z, C, Z3 or W-W5 terminations.  
Available actuator colors, see page A-15.

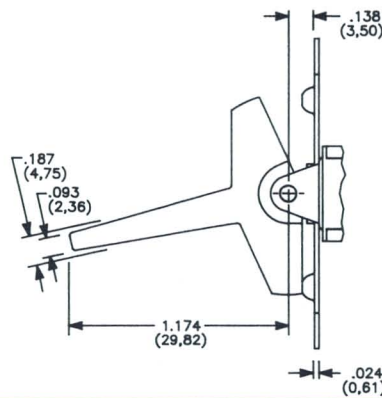
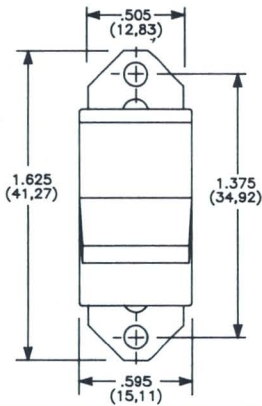
**J3**



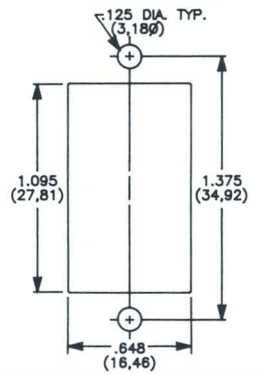
PANEL MOUNTING



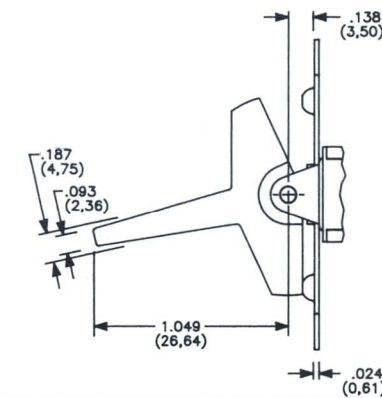
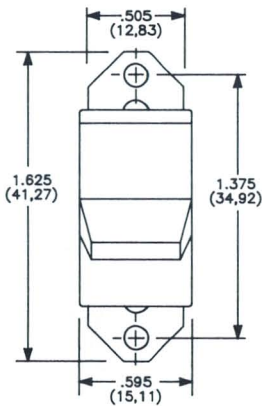
**J4**



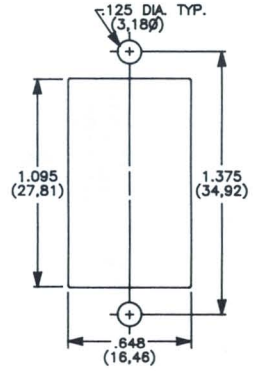
PANEL MOUNTING



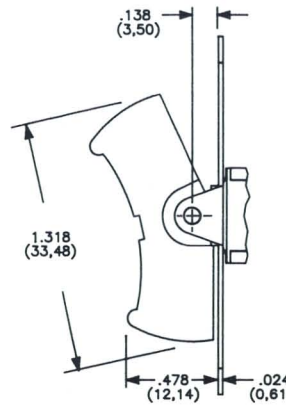
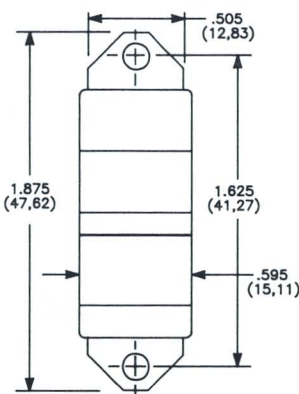
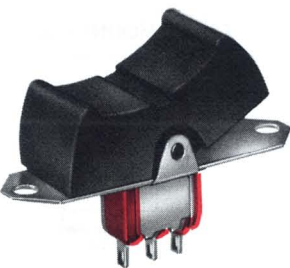
**J5**



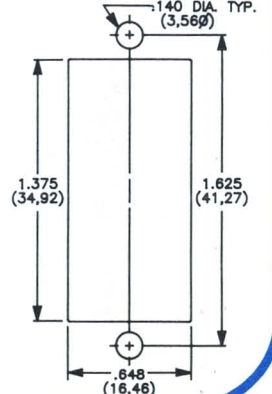
PANEL MOUNTING



**J10**



PANEL MOUNTING



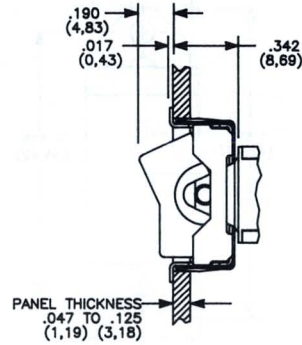
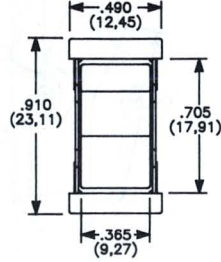
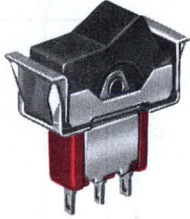
ACT./MTG. STYLE



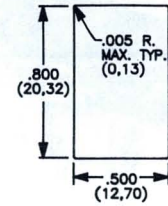
**ACTUATOR OPTIONS FOR SNAP-IN FRONT MOUNTING**

Available with Z, C, Z3 or W-W5 terminations. SPDT and DPDT models only.  
Available actuator and frame colors, see page A-15.

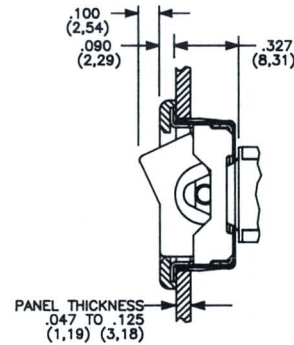
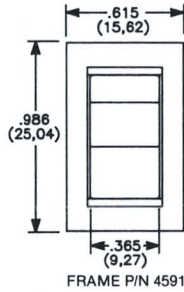
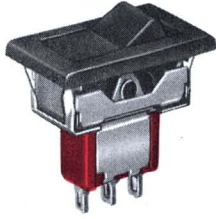
**J15**



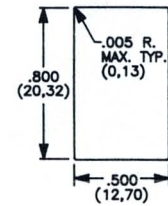
PANEL MOUNTING



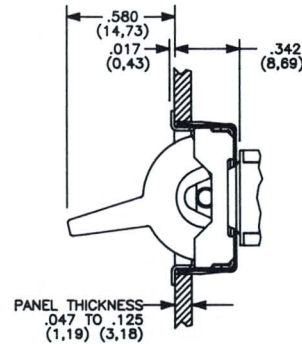
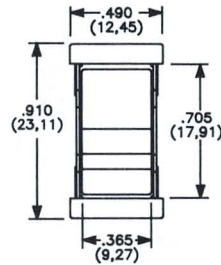
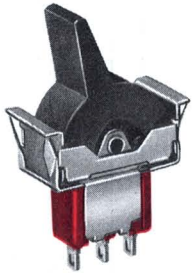
**J16**



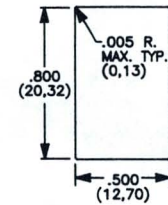
PANEL MOUNTING



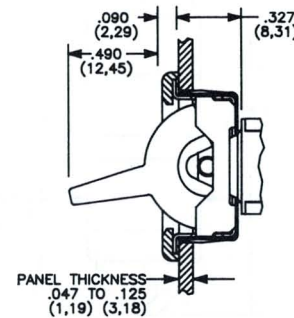
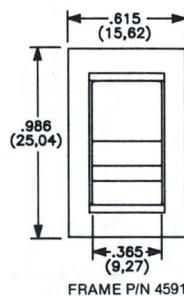
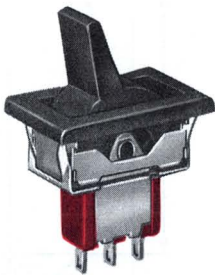
**J25**



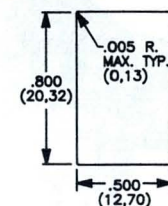
PANEL MOUNTING



**J26**



PANEL MOUNTING



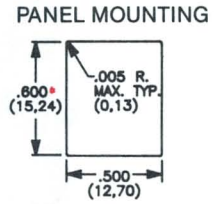
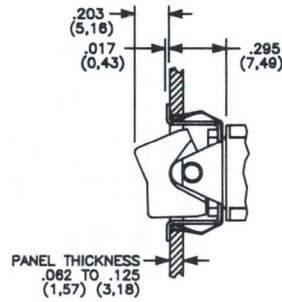
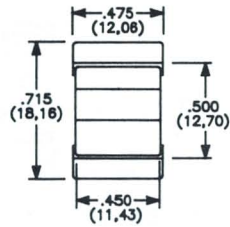
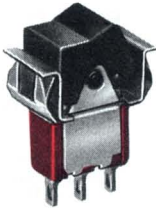
ACT./MTG. STYLE



**ACTUATOR OPTIONS FOR SNAP-IN FRONT MOUNTING (cont'd.)**

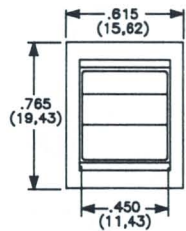
Available with Z, C, Z3 or W-W5 terminations. SPDT and DPDT models only.  
Available actuator and frame colors, see page A-15.

**J50**

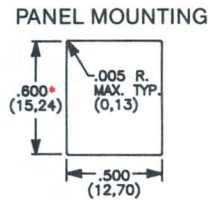
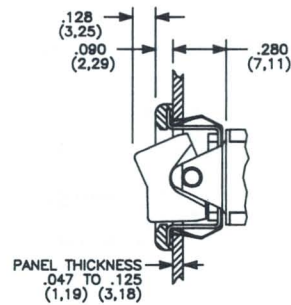


\*For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J51**

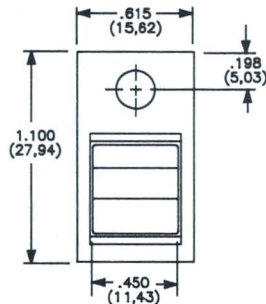
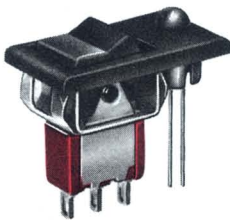


FRAME P/N 7890



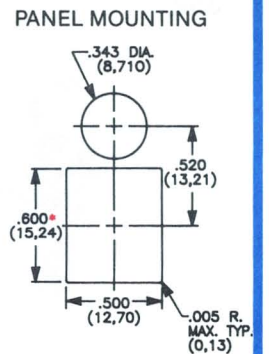
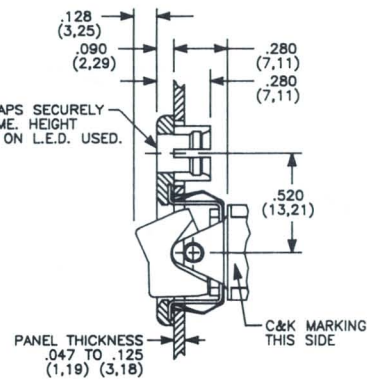
\*For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J52**



FRAME P/N 8058

L.E.D. SNAPS SECURELY INTO FRAME. HEIGHT DEPENDS ON L.E.D. USED.

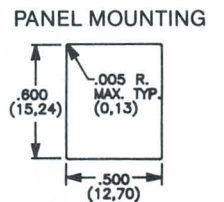
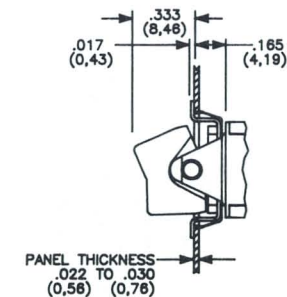
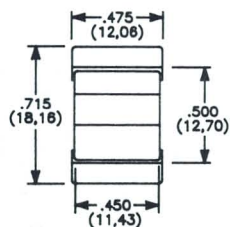
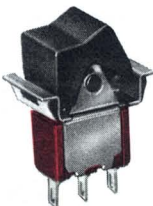


U.S. PAT. NO. 4,004,120

L.E.D. NOT INCLUDED. FOR L.E.D. INFORMATION, SEE PAGE A-25.

\*For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J53**



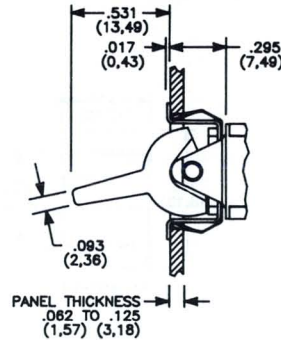
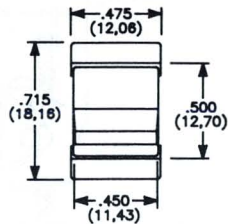
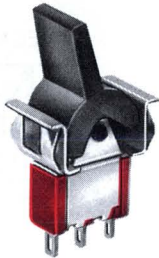
ACT./MTG. STYLE



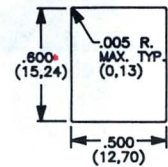
## ACTUATOR OPTIONS FOR SNAP-IN FRONT MOUNTING (cont'd.)

Available with Z, C, Z3 or W-W5 terminations. SPDT and DPDT models only.  
Available actuator and frame colors, see page A-15.

**J60**

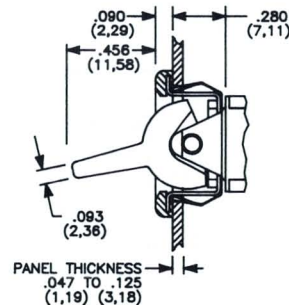
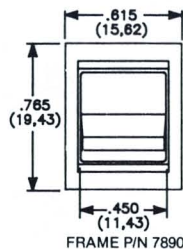


PANEL MOUNTING

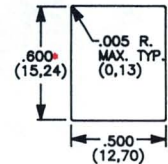


\* For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J61**

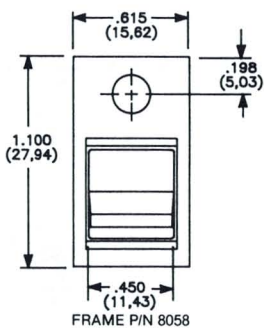


PANEL MOUNTING

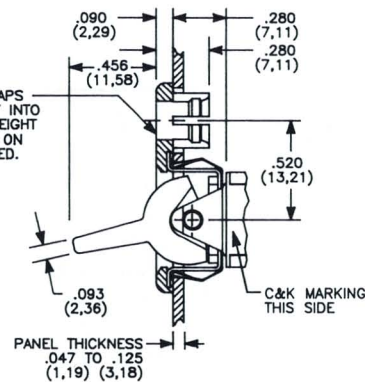


\* For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

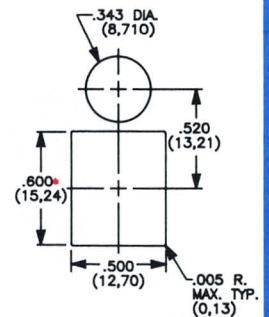
**J62**



L.E.D. SNAPS SECURELY INTO FRAME. HEIGHT DEPENDS ON L.E.D. USED.



PANEL MOUNTING

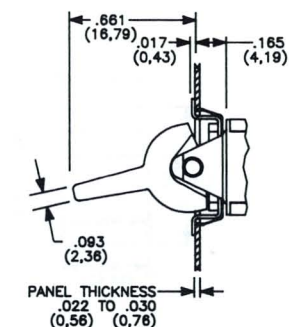
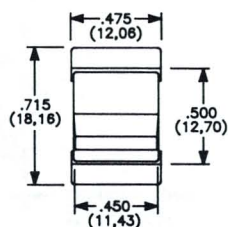
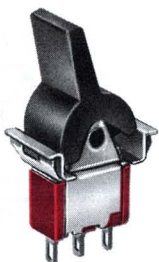


U.S. PAT. NO. 4,004,120

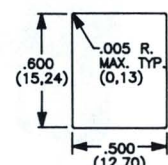
L.E.D. NOT INCLUDED. FOR L.E.D. INFORMATION, SEE PAGE A-25.

\* For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J63**



PANEL MOUNTING



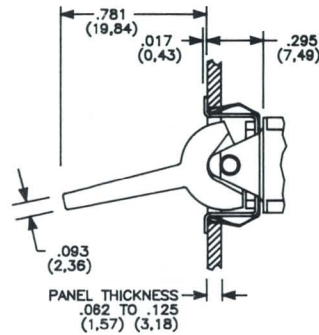
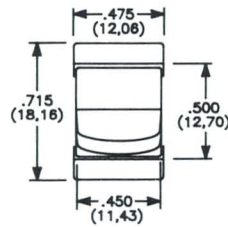
ACT./MTG. STYLE



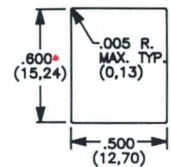
**ACTUATOR OPTIONS FOR SNAP-IN FRONT MOUNTING (cont'd.)**

Available with Z, C, Z3 or W-W5 terminations. SPDT and DPDT models only.  
Available actuator and frame colors, see page A-15.

**J90**

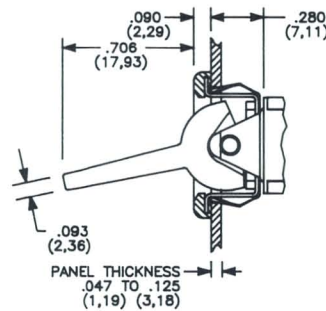
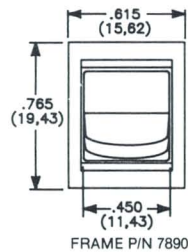


PANEL MOUNTING

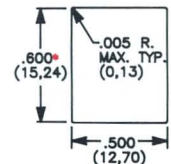


\* For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J91**

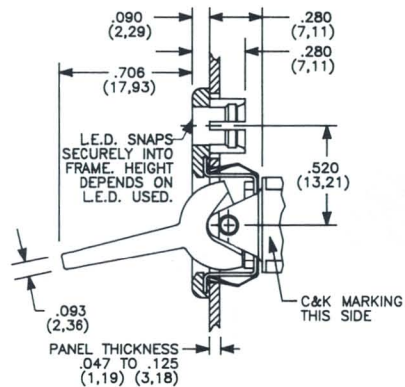
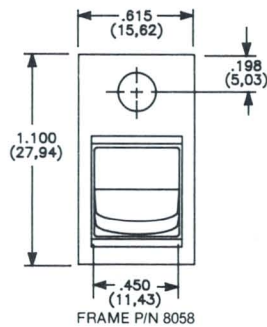


PANEL MOUNTING

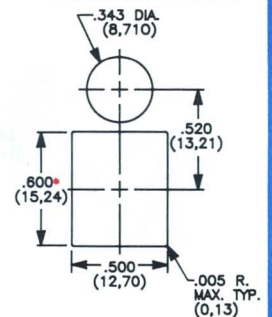


\* For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J92**



PANEL MOUNTING

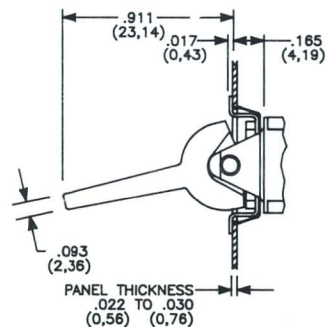
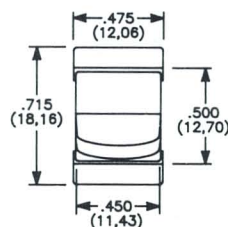
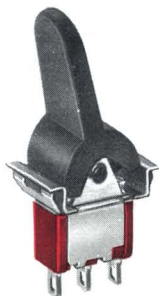


U.S. PAT. NO. 4,004,120

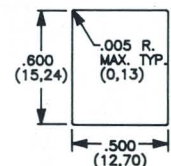
L.E.D. NOT INCLUDED. FOR L.E.D. INFORMATION, SEE PAGE A-25.

\* For .125 (3,18) THK. panel, increase this DIM. to .620/.625 (15,75/15,88).

**J93**

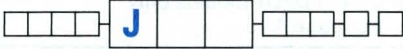


PANEL MOUNTING





ACT./MTG. STYLE

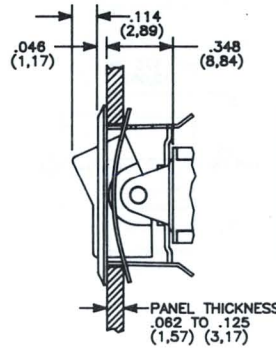
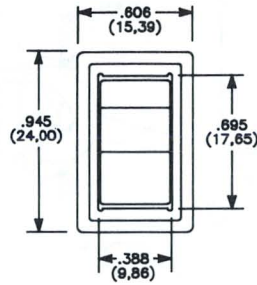


## ACTUATOR OPTIONS FOR REAR MOUNTING

Available with Z, C, Z3 or W-W5 terminations.

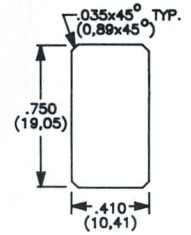
Available actuator colors, see page A-15. Select frame colors below.

**J11**

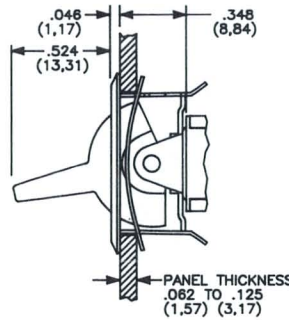
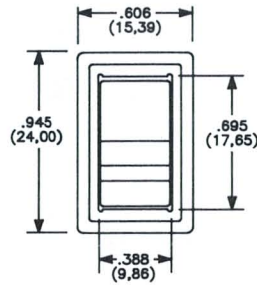


FRAME COLORS	
P/N	FINISH
7645-1	BRIGHT CHROME
7645-2	BLACK (Std.)
7645-3	SATIN CHROME
7645-4	WHITE ENAMEL

PANEL MOUNTING

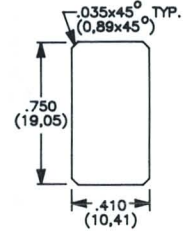


**J21**

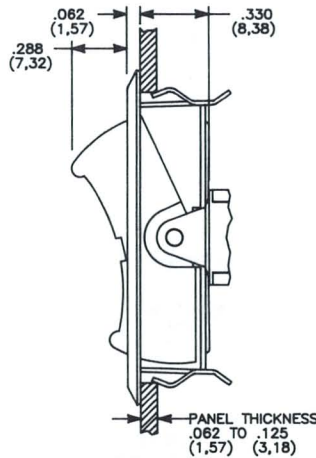
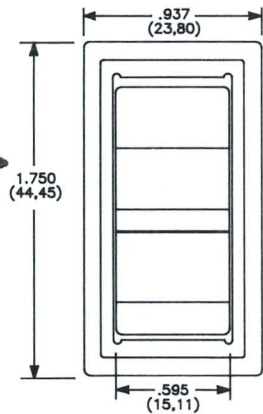
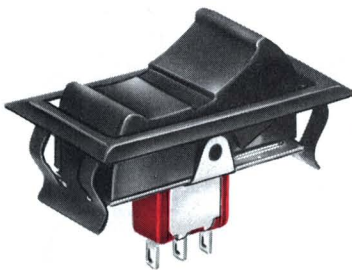


FRAME COLORS	
P/N	FINISH
7645-1	BRIGHT CHROME
7645-2	BLACK (Std.)
7645-3	SATIN CHROME
7645-4	WHITE ENAMEL

PANEL MOUNTING

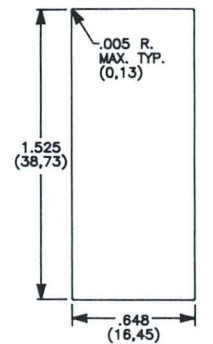


**J19**

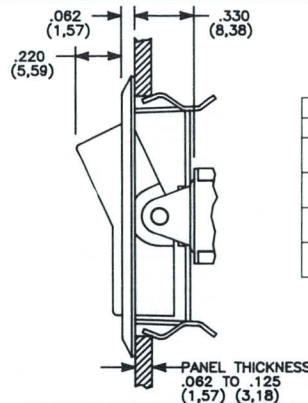
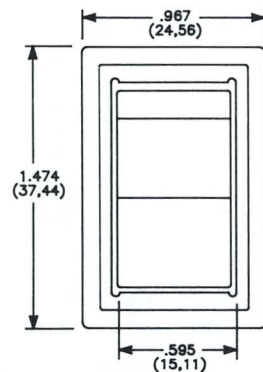


FRAME COLORS	
P/N	FINISH
7810-1	BRIGHT CHROME
7810-2	BLACK (Std.)
7810-3	SATIN CHROME
7810-4	WHITE ENAMEL

PANEL MOUNTING

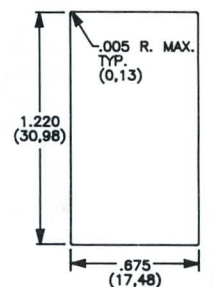


**J37**

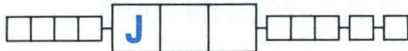


FRAME COLORS	
P/N	FINISH
4454-1	BRIGHT CHROME
4454-2	BLACK (Std.)
4454-3	SATIN CHROME
4454-4	WHITE ENAMEL

PANEL MOUNTING



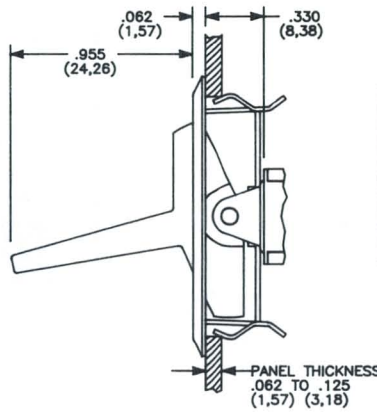
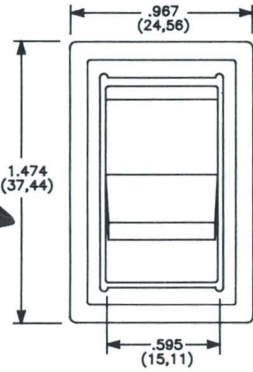
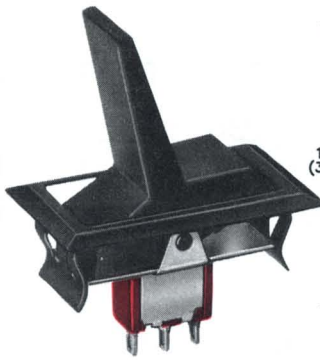
ACT./MTG. STYLE



**ACTUATOR OPTIONS FOR REAR MOUNTING (cont'd.)**

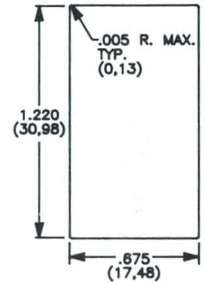
Available with Z, C, Z3 or W-W5 terminations.  
Available actuator colors, see page A-15. Select frame colors below.

**J47**

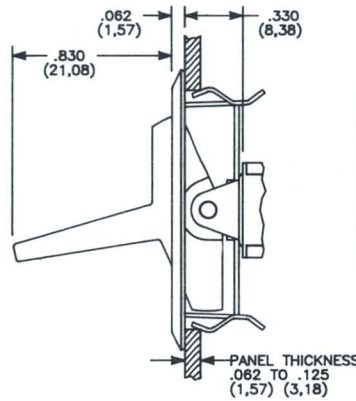
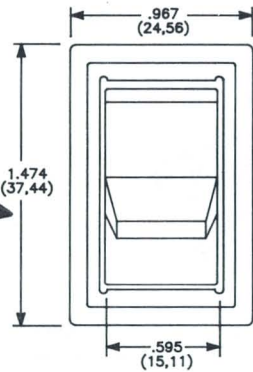


FRAME COLORS	
P/N	FINISH
4454-1	BRIGHT CHROME
4454-2	BLACK (Std.)
4454-3	SATIN CHROME
4454-4	WHITE ENAMEL

PANEL MOUNTING

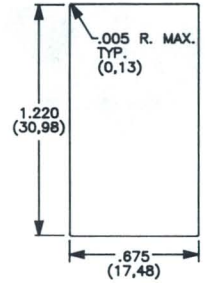


**J57**



FRAME COLORS	
P/N	FINISH
4454-1	BRIGHT CHROME
4454-2	BLACK (Std.)
4454-3	SATIN CHROME
4454-4	WHITE ENAMEL

PANEL MOUNTING



ACT./MTG. STYLE



**ACTUATOR OPTIONS FOR P.C. MOUNTING**

(shown on next page)

Available actuator options for P.C. mounted switches are shown on next page. Select actuator color from chart on page A-15. Chart below shows available actuator / termination combinations. Note that some permissible combinations may lack clearance between actuator and P.C. board, and care must be exercised to accommodate this condition.

AVAILABLE ACTUATOR / TERMINATION COMBINATIONS	
ACTUATOR OPTIONS	P.C. TERMINATIONS AVAILABLE
J1, J2	A, AV2, V3, V4, V5*, V6-V9
J3, J4, J5	AV2*, V3, V4, V5*, V6-V9
J50, J60, J90	A*, AV2, V3-V9

\*Actuator may lack clearance with P.C. board.

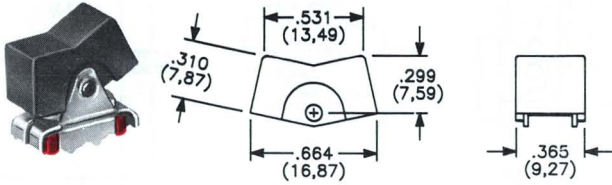
ACT./MTG. STYLE



## ACTUATOR OPTIONS FOR P.C. MOUNTING

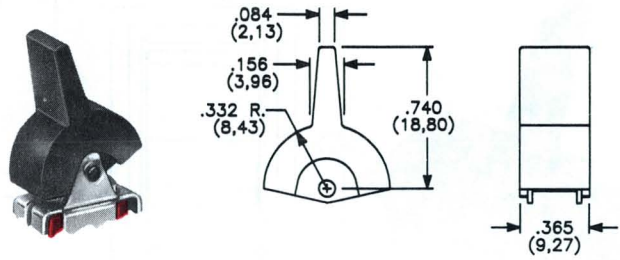
See page A-23 for available actuator/termination combinations.  
Available actuator colors, see page A-15.

**J1**



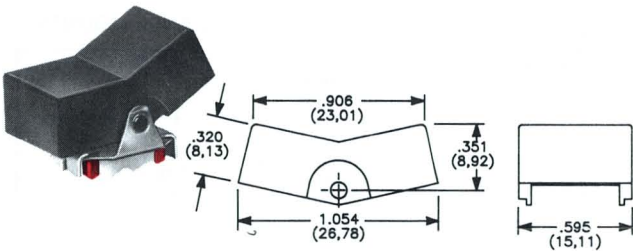
ACTUATOR P/N 7602

**J2**



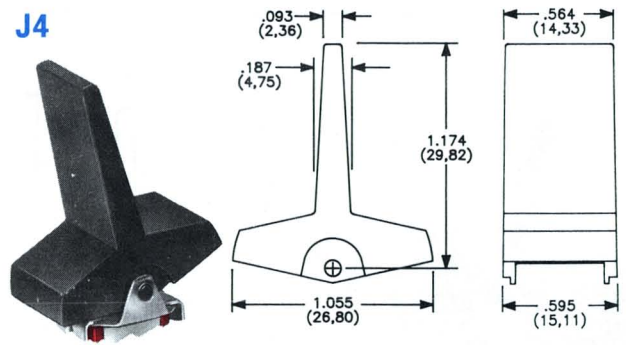
ACTUATOR P/N 7605

**J3**



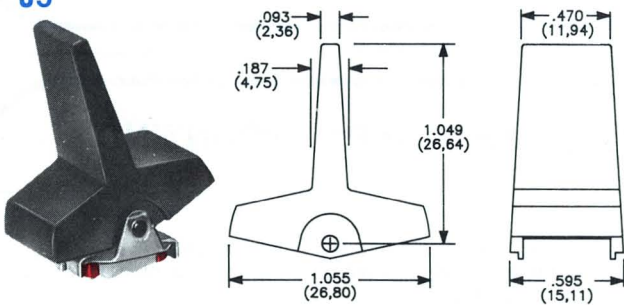
ACTUATOR P/N 7666

**J4**



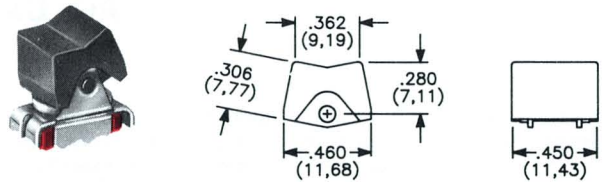
ACTUATOR P/N 7733

**J5**



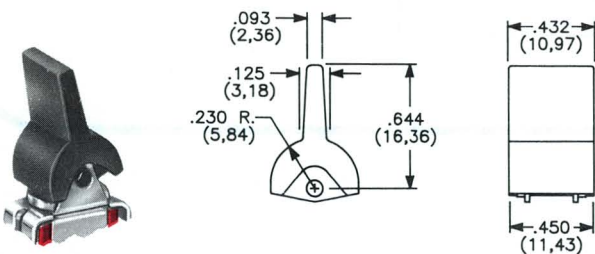
ACTUATOR P/N 7912

**J50**



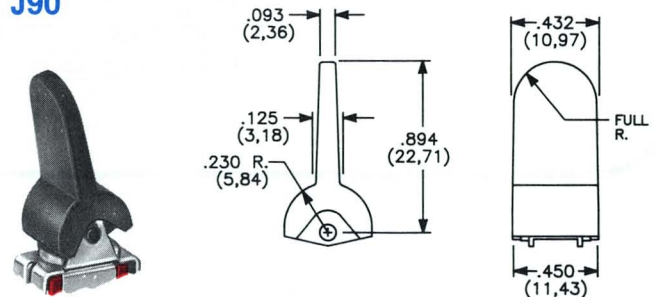
ACTUATOR P/N 7870

**J60**



ACTUATOR P/N 7868

**J90**



ACTUATOR P/N 7904

**L.E.D. INFORMATION FOR J52- J62- J92 ACTUATOR OPTIONS**

(See pages A-19 thru A-21 for option illustrations)

L.E.D.'s are not supplied with J52, J62, J92 actuator options. Below are recommended dimensions, sources and typical ratings:

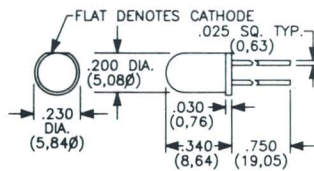
**SUGGESTED L.E.D. LAMP MODELS AND SUPPLIERS**

GEN. INSTRUMENT	XCITON	SIEMENS CORP.
MV5054-Red	XC556-Red	LD41-Red
MV5253-Green	XC556G-Green	LD57-Green
MV5353-Yellow	XC556Y-Yellow	LD55-Yellow

**TYPICAL L.E.D. RATINGS**

Forward Voltage	Current	Power	Max. Reverse Voltage
2.3V	50mA	100mW	5V

**RECOMMENDED L.E.D. DIMENSIONS**



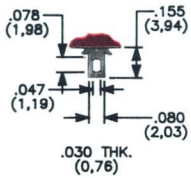
**TERMINATIONS**



Note: Switches with Z, C, Z3 or W-W5 terminations have panel mounting bracket, shown pages A-14 & A-15.

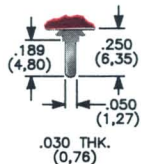
**TERMINATIONS**

**Z (Std.)**



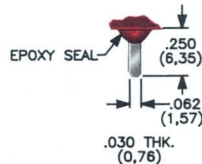
'Q' Contact Material Std.

**C**



'Q' Contact Material Std.

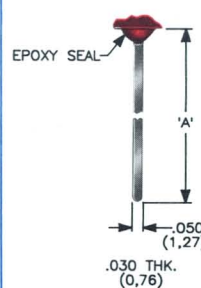
**Z3 QUICK CONNECT**



Mating quick connector available; order part no. 5301.

'Q' Contact Material Std.

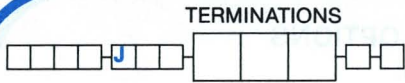
**W-W5 WIRE-WRAP**



OPTION CODE	DIM. 'A'
W	.750 (19.05)
W1	.964 (24.48)
W3	.425 (10.80)
W4	1.062 (26.97)
W5	1.305 (33.15)

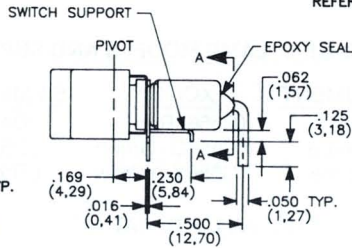
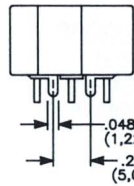
Wire-Wrap is a registered trademark of the Gardner-Denver Company.

'B' Contact Material Std.

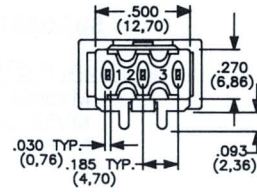


## TERMINATIONS (cont'd.)

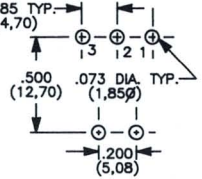
**A**



TERM. NOS. FOR REFERENCE ONLY



PC MOUNTING



SECTION A-A

**SPDT**

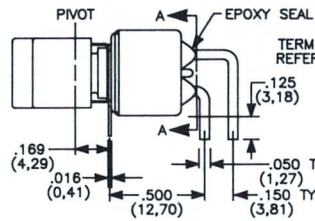
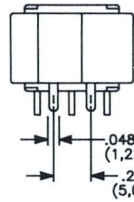
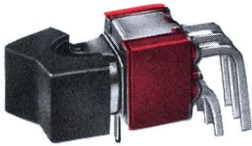
Note: PC. pattern must clear switch support legs. For available actuator options, see chart, page A-23.

Actuator shown in POS.1.

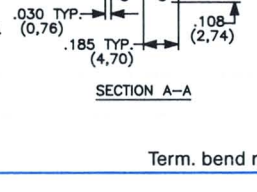
'B' Contact Material Std.

Term. bend radii mfg. option.

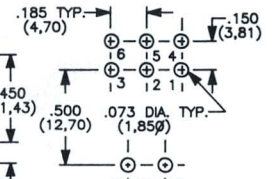
**A**



TERM. NOS. FOR REFERENCE ONLY



PC MOUNTING



SECTION A-A

**DPDT**

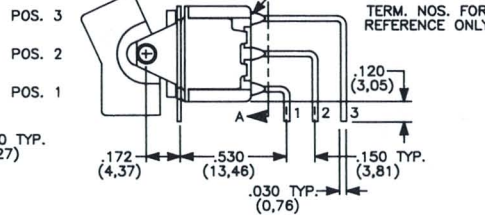
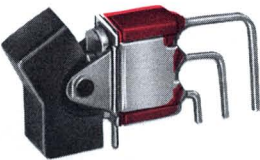
For available actuator options, see chart, page A-23

Actuator shown in POS.1.

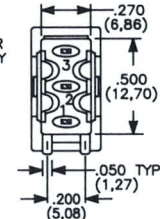
'B' Contact Material Std.

Term. bend radii mfg. option.

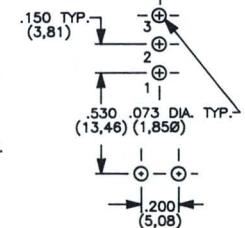
**V5**



TERM. NOS. FOR REFERENCE ONLY



PC MOUNTING



SECTION A-A

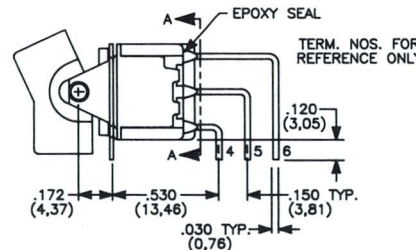
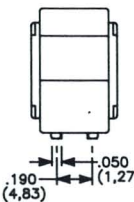
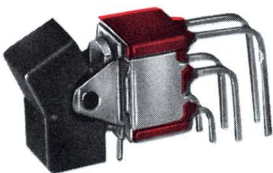
**SPDT**

For available actuator options, see chart, page A-23

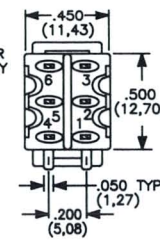
'B' Contact Material Std.

Term. bend radii mfg. option.

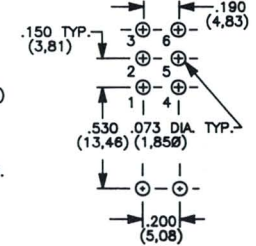
**V5**



TERM. NOS. FOR REFERENCE ONLY



PC MOUNTING



SECTION A-A

**DPDT**

For available actuator options, see chart, page A-23

'B' Contact Material Std.

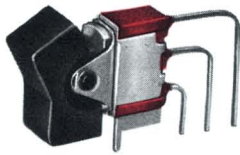
Term. bend radii mfg. option.

TERMINATIONS

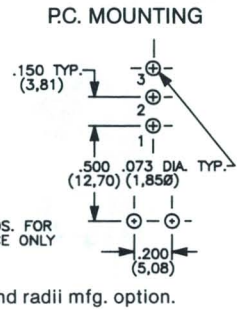
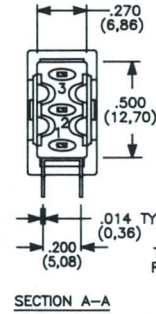
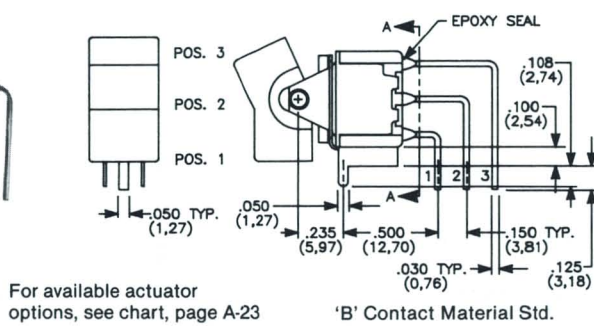


TERMINATIONS (cont'd.)

**AV2**



**SPDT**



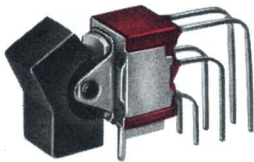
For available actuator options, see chart, page A-23

'B' Contact Material Std.

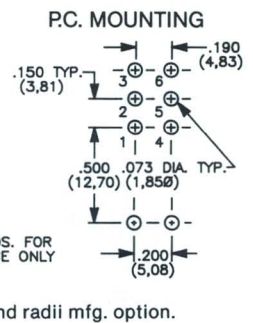
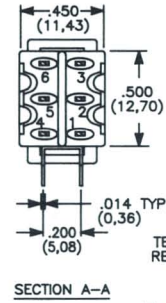
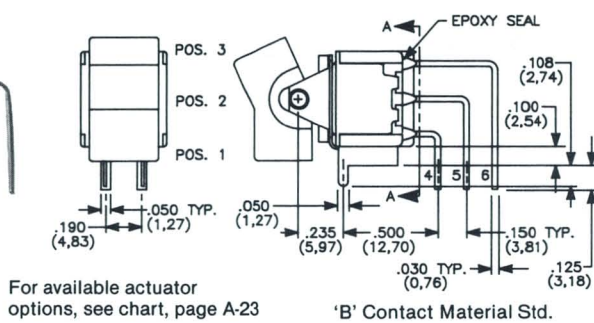
SECTION A-A

Term. bend radii mfg. option.

**AV2**



**DPDT**



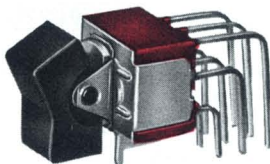
For available actuator options, see chart, page A-23

'B' Contact Material Std.

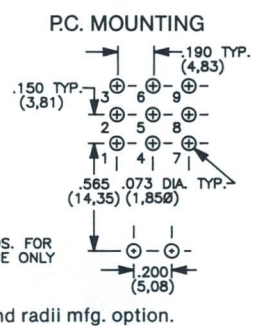
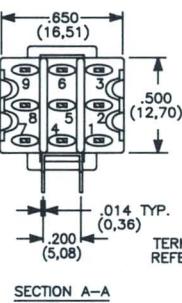
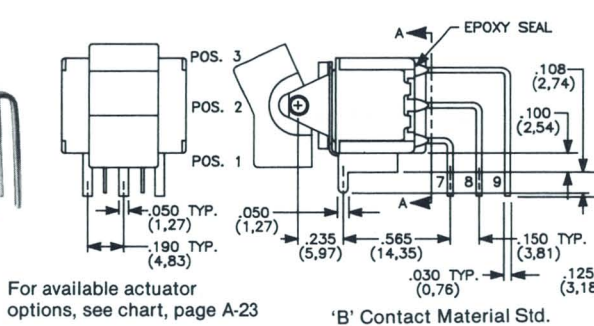
SECTION A-A

Term. bend radii mfg. option.

**AV2**



**3PDT**



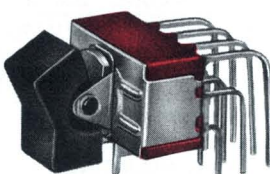
For available actuator options, see chart, page A-23

'B' Contact Material Std.

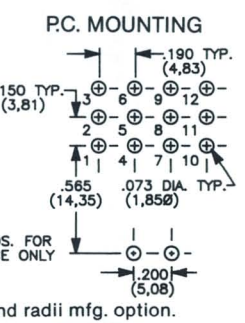
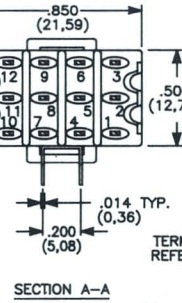
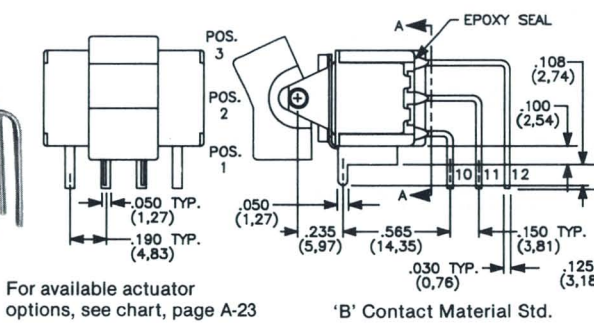
SECTION A-A

Term. bend radii mfg. option.

**AV2**



**4PDT**



For available actuator options, see chart, page A-23

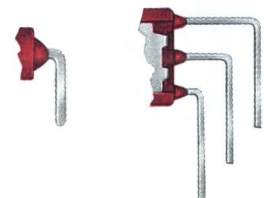
'B' Contact Material Std.

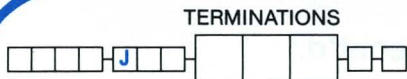
SECTION A-A

Term. bend radii mfg. option.

**EXTENDED TERMINAL OPTION**

Switches with A or AV2 terminations may be ordered with extended terminals, as shown. This provides easier installation into P.C. boards. To order, specify 'Extended Terminals' in word form after order number.



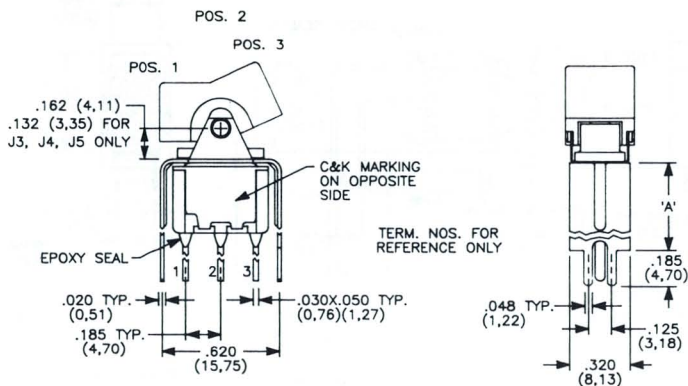


## TERMINATIONS (cont'd.)

### V3-V4-V9

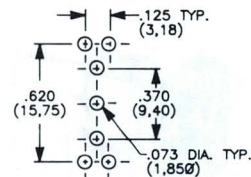


SPDT



'B' Contact Material Std.

### P.C. MOUNTING

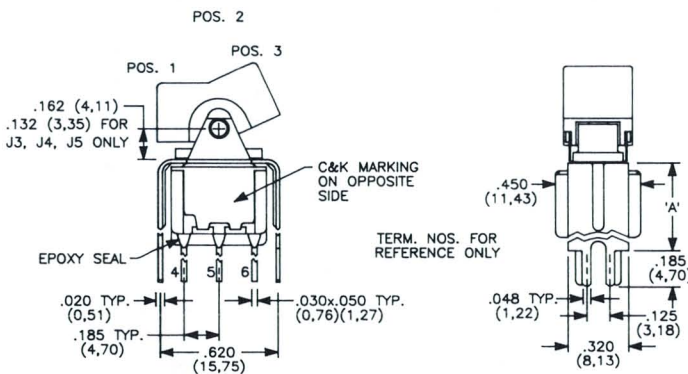


OPTION CODE	DIM. 'A'
V3	.460 (11,68)
V4	.630 (16,00)
V9	1.150 (29,21)

### V3-V4-V9

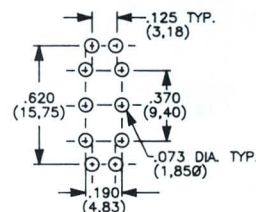


DPDT



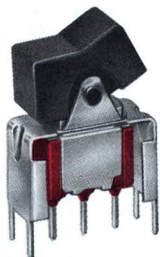
'B' Contact Material Std.

### P.C. MOUNTING

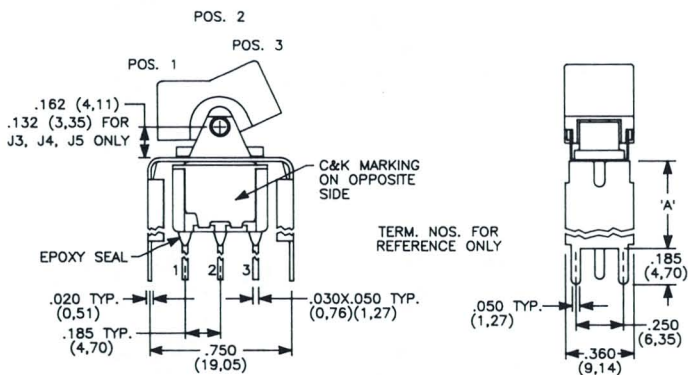


OPTION CODE	DIM. 'A'
V3	.460 (11,68)
V4	.630 (16,00)
V9	1.150 (29,21)

### V6-V7-V8

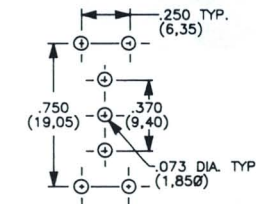


SPDT



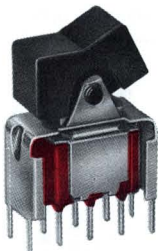
'B' Contact Material Std.

### P.C. MOUNTING

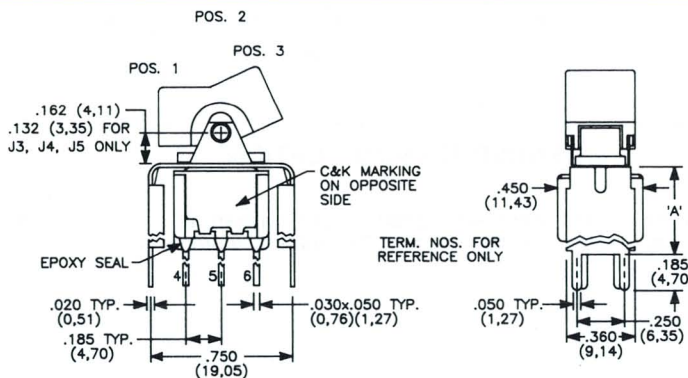


OPTION CODE	DIM. 'A'
V6	.460 (11,68)
V7	.630 (16,00)
V8	.953 (24,21)

### V6-V7-V8

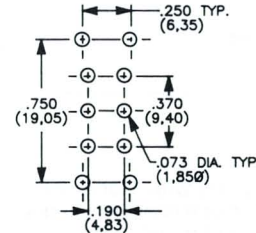


DPDT



'B' Contact Material Std.

### P.C. MOUNTING



OPTION CODE	DIM. 'A'
V6	.460 (11,68)
V7	.630 (16,00)
V8	.953 (24,21)

CONT. MAT'L



**CONTACT MATERIALS**

- B** CONTACTS & TERMINALS: Brass, with gold plate over nickel plate.  
RATING: 0.4 VA max. @ 20 V AC or DC max. (Std. with all termination options exc. Z, C, Z3)
- Q** END CONTACTS: Coin silver, silver plated.  
CENTER CONTACT & ALL TERMINALS: Brass, silver plated.  
RATING: 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC. (Std. with termination options Z, C, Z3)
- G** END CONTACTS: Coin silver, with gold plate over nickel plate.  
CENTER CONTACT & ALL TERMINALS: Brass, with gold plate over nickel plate.  
RATING: 0.4 VA max. @ 20 V AC or DC max. or 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC.

**Note:** 'G' contact material is equivalent to both 'B' and 'Q' contact materials and can be used where either dry circuit\* or power conditions are encountered. However, when the dry circuit rating is exceeded, the gold plating is removed from the contact interface and the switch cannot then be used in dry circuits. This option should be specified where UL or CSA listing is required on a switch used in a dry circuit application.

\*Dry circuit = conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.

SEAL



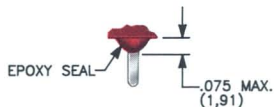
**SEALING**

**(None)**

No seal

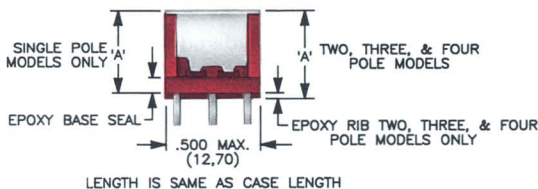
Std. with Z, C terminations, not avail. with all other terminations.

**E**



Std. with Z3, W-W5, A, AV2, V3-V9 terminations.

**I**



Available only with Z, C, Z3 or W-W5 terminations.

POLES	DIM. 'A'
SP	.410 (10,41)
DP	.440 (11,18)
3P	.505 (12,83)
4P	.505 (12,83)



**HOW TO ORDER**

Complete the order number below by selecting the desired model no., actuator/mounting style, termination, contact material and (if desired) terminal sealing options from the preceding sections. Place the option codes in the appropriate boxes of the ordering format. Some boxes may be unfilled. Write actuator color and, where applicable, frame color in word form after order number. (Example: 7 2 1 1 - J 2 6 - Z - B - with white actuator and blue frame).

If no color is specified, black will be supplied.

Note: all terminations are not available with all mounting styles, see ACTUATOR/MOUNTING STYLE option section.

L.E.D.'s not furnished with J52, J62 or J92 actuator options.

Z terminations, Q contact material and no seal are supplied if no options are specified. E epoxy terminal seal standard with Z3, W-W5, A, AV2 and V3-V9 terminations.

UL listed with all options when ordered with model nos. U11 thru U415 and G or Q contact material. CSA listing available on all UL listed switches, specify 'with CSA listing' in word form after order number. Z termination option CSA listed only when ordered with I epoxy base seal.

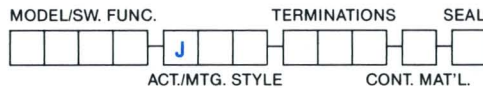
Note: Custom actuator markings and legends available, see inside front cover and consult factory.

**HARDWARE:** Two mounting screws, two nuts, two standoffs for 1/8 in. thk. panel and two lockwashers are supplied standard on panel mounted switches. Hardware for optional panel thicknesses available. See chart on page A-31 to determine correct standoff length and part no. Write part description and part no. in word form after order number. If nothing is specified, standard hardware will be supplied. Hardware is also available separately, see HARDWARE section, pages A-31 and A-32.

**UNAVAILABLE OPTION COMBINATIONS**

<u>Model or Option</u>	<u>Options Not Available</u>
U11 thru U415	B*
J3, J4, J5, J10	A, V5
I	A, AV2, V3-V9

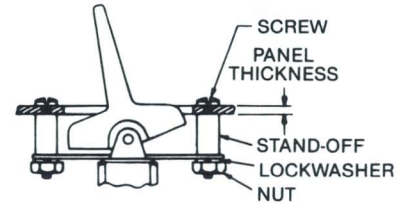
\*UL listed switches must be ordered with G or Q contact material because UL considers for listing only those components suitable for power applications.



**AVAILABLE HARDWARE**

Hardware shown below and on next page is available separately. To order, write part nos., descriptions and colors in word form. Mounting hardware for panel mounted switches consists of two screws, two nuts, two standoffs and two lockwashers per switch. See chart.

MOUNTING HARDWARE			
HARDWARE P/N	PANEL THK.	STANDOFF LENGTH	ACTUATOR OPTION
7611-01	1/16 in. (1,59)	.295 (7,49)	J1, J2, J54, J64, J94
7611-02	3/32 in. (2,38)	.264 (6,71)	
7611-03 (Std.)	1/8 in. (3,18)	.233 (5,92)	
7706-01	1/16 in. (1,59)	.295 (7,49)	J3
7706-02	3/32 in. (2,38)	.264 (6,71)	
7706-03 (Std.)	1/8 in. (3,18)	.233 (5,92)	
7750-01	1/16 in. (1,59)	.375 (9,53)	J4, J5
7750-02	3/32 in. (2,38)	.344 (8,74)	
7750-03 (Std.)	1/8 in. (3,18)	.312 (7,92)	
7707-01	1/16 in. (1,59)	.295 (7,49)	J10
7707-02	3/32 in. (2,38)	.264 (6,71)	
7707-03 (Std.)	1/8 in. (3,18)	.233 (5,92)	



MATERIALS: SCREWS, NUTS, LOCKWASHERS- Stainless Steel.  
STANDOFFS- Aluminum or nylon.

**FRAMES**

Frames for the following actuator options are available separately. Chart shows available colors for nylon frames. For illustrations and dimensions of parts not shown, see pages noted. Nylon frame finish: matte.

FRAME P/N	FITS ACTUATOR OPTION	SEE PAGE NO.	MATERIAL
4591	J16, J26	A-18	Nylon
7890	J51, J61, J91	A-19, A-20, A-21	Nylon
8058	J52, J62, J92	A-19, A-20, A-21	Nylon
7645-*	J11, J21	A-22	Spring Steel
7810-*	J19	A-22	Spring Steel
4454-*	J37, J47, J57	A-22, A-23	Spring Steel

\*For complete part nos. and available colors, see FRAME COLOR CHARTS pages A-22, A-23.

FRAME COLORS (NYLON FRAMES)	
1	White
2	Black(Std.)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

(cont'd. on next page)

**SNAP-IN FRAMES**

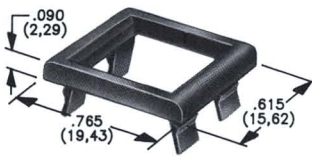
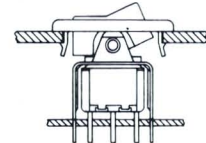
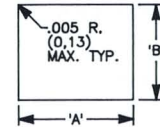
Frames below snap into panel opening and are independent from switch mounting. They are recommended for P.C. mounted switches with A, AV2 or V3 - V9 terminations. Accurate positioning of the P.C. mounted switch relative to the panel opening is necessary to provide proper clearance between the actuator and the frame. See charts for correct part no., panel thickness and available colors. Frame finish: matte; material, nylon.



FOR J1, J2 ACTUATORS

FRAME PART NO.	PANEL THICKNESS	DIM. 'A'	DIM. 'B'
4529	.047 (1,19)	.797-.803 (20,24-20,40)	.495-.505 (12,57-12,83)
4527	.062 (1,57)		
4528	.090 (2,29)		
4526	.125 (3,18)		

**MOUNTING INFORMATION**



FOR J50, J60, J90 ACTUATORS

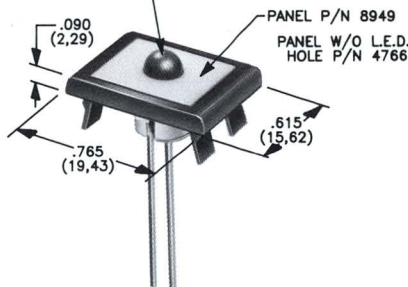
FRAME PART NO.	PANEL THICKNESS	DIM. 'A'	DIM. 'B'
4325	.047 (1,19)	.595-.605 (15,11-15,37)	.495-.500 (12,57-12,70)
4326	.062 (1,57)		
4327	.090 (2,29)	.620-.625	.495-.500
4328	.125 (3,18)	(15,75-15,88)	(12,57-12,70)

FRAME COLORS			
1	White	6	Green
2	Black(Std.)	7	Blue
3	Red	8	Brown
4	Orange	9	Gray
5	Yellow		

**INSERTS FOR SNAP-IN FRAMES**

Above frames (P/N 4325 thru 4328) are also available with insert which accepts L.E.D.'s for indicator light assembly. Order insert separately from frame, specify P/N 8949 and desired color in word form. Blank panel, without hole for L.E.D. also available, P/N 4766. For L.E.D. specifications and recommended dimensions, see page A-25.

L.E.D. (.200 DIA. (5,08)) SNAPS SECURELY INTO INSERT (P/N 8949). HEIGHT DEPENDS ON L.E.D. USED.



INSERT COLORS			
1	White	6	Green
2	Black(Std.)	7	Blue
3	Red	8	Brown
4	Orange	9	Gray
5	Yellow		