# Features/Benefits

- Multi-pole and multi-position
- Wide variety of actuator and termination options
- Epoxy terminal-seal compatible with bottom wash cleaning
- RoHS compliant

### Typical Applications

- **Telecommunications**
- Instrumentation
- Medical equipment



### **FL** 115

### **Specifications**

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. Q contact material: 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC. See page G-20 for additional ratings.

ELECTRICAL LIFE: 7X01 and UX1 models: 100,000 make-and-break cycles at full load. All other models: 40,000 cycles.

CONTACT RESISTANCE: Below 10 m  $\Omega$  typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE:  $10^9 \Omega$  min.

DIELECTRIC STRENGTH: 1000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 85°C.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

NOTE: Any models supplied with S. P. R. Q. B or G contact material are RoHS compliant.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center,

#### **Materials**

CASE: Glass filled nylon 6/6, flame retardant, heat stabilized, or diallyl phthalate (DAP) (UL 94V-0).

ACTUATOR: Nylon, black.

FRAME (FRONT MOUNT): Nylon, black. FRAME (REAR MOUNT): Spring steel, black. BUSHING: Brass or zinc, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass or steel, matte-tin plated.

END CONTACTS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Coin silver, silver plated. See page G-20 for additional contact materials.

CENTER CONTACTS & ALL TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Copper alloy, silver plated. See page G-20 for additional contact materials.

TERMINAL SEAL: Epoxy. Refer to Soldering and Cleaning in Technical **Data Section** 

HARDWARE: Mounting nuts & screws: Brass. Lockwasher: Stainless steel. Standoff: Nylon standard.

#### **Build-A-Switch**

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages G-4 through G-24. For additional options not shown in catalog, consult Customer Service Center. All models have epoxy terminal seal and are compatible with all "bottom-wash" PCB cleaning methods.

#### **Switch Function Contact Material** 7101 SP On-None-On Actuator **B** Gold 7103 SP On-Off-On .531 long rocker J1 P Gold, matte tin 7105 SP Mom.-Off-Mom. **Terminations** J2 Q Silver Right angle, PC thru-hole **7107** SP On-Off-Mom. .906" long rocker J3 Silver, matte-tin S AV2 Vertical right angle, PC thru-hole 7108 SP On-None-Mom. **J10** 1.318" long rocker Gold over silver C PC Thru-hole 7109 SP None-On-Mom. J11 Rocker with frame Gold over silver, matte-tin Z Solder lug **7201** DP On-None-On J15 Rocker, snap-in **A3** Right angle, snap-in, PC thru-hole **7203** DP On-Off-On J16 Rocker with frame, snap-in AV3 Vertical right angle, **7205** DP Mom.-Off-Mom. J19 Rocker with frame Seal snap-in, PC thru-hole **7207** DP On-Off-Mom. J21 Lever with frame **E** Epoxy AW3 Right angle, extended, PC thru-hole 7208 DP On-None-Mom. Epoxy potted base **J25** Lever, snap-in **V2** .555" high, V-bracket **7211** DP On-On-On J26 Lever with frame, snap-in **7213** DP On-On-Mom. **V3** .460" high, V-bracket J37 Rocker with frame **V**4 .630" high, V-bracket **7215** DP Mom.-On-Mom. **Actuator Color** J50 Rocker **V**5 Vertical right angle, PC thru-hole 7301 3P On-None-On Frame Color 2 Black J51 Rocker with frame **V**6 .460" high, V-bracket **7303** 3P On-Off-On 2 Black 1 White J52 Rocker with frame for .630" high, V-bracket **V7** 7401 4P On-None-On 3 Red NONE No frame color required LED, snap-in .953" high, V-bracket 7405 4P Mom.-Off-Mom. **V**8 1.150" high, V-bracket **V**9 **7411** 4P On-On-On **Metal Frame Color J61** Lever with frame, snap-in V31 .460" high, V-bracket, snap-in Note: UL models (J11, J19, J21 & J62 Lever with frame for V51 Vertical right angle, snap-in available, see pages G-5 J37 Actuators) LED, snap-in and G-6. V61 .460" high, V-bracket, snap-in 2 Black J90 Lever W .750" long, wire wrap White J91 Lever with frame, snap-in W3 .425" long, wire wrap 1.305" long, wire wrap **W5**

Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

Z3 Quick connect

# Miniature Rocker & Lever Handle Switches

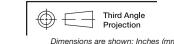
#### **SWITCH FUNCTION** SWITCH FUNCTION CONNECTED TERMINALS POS. 1 POS. 2 POS. 3 POS. 1 POS. 3 POS. 2 UL\*\* NO. POLES MODEL C&K marking on opposite side C&K marking on opposite side MODEL NO. **SCHEMATIC** 7101 U11 ON NONE ON N/A 7103 **U13** ON 2 (COMM) 7105 **U15** MOM OFF MOM. 2-3 **OPEN** 2-1 SP **U17** 7107 ON OFF MOM 7108 U18 ON NONE MOM. N/A SPDT 7109 **U19** MOM. 2-3 **SPDT** (6, 99) .080 TYP. (2,03) TERM. WIDTH 25° P0S 3 .185 TYP. (4,70) P05 2 .937 (23,80) P05 1 EPOXY SEAL .155 TYP. (3,94) .270 (6,86) CASE WIDTH .370 (9,40) .094 DIA. (2,390) TYP. Terminal Nos. Part number shown: 7101J1ZQE2 For Reference Only 7201 **U21** ON NONE ON N/A 7203 **U23** OFF ON ON 7205 **U25** MOM OFF MOM. OPEN **U27** 7207 OFF MOM. 2-3,5-6 2-1,5-4 2 (COMM) DP 7208 **U28** ON NONE MOM. N/A 7211\* U211\* ON ON ON 7213\* U213\* ON ON MOM. 2-3,5-4 DPDT 7215\* U215\* MOM MOM. . 275 (6, 99) **DPDT** .190 .040 (1,02) C&K MARKING ON OPPOSITE SIDE Ж .030 TYP. (0,76) 25° 3 .500 (12,70) 5 3 1 1,156 (29,36) P05 3 .185 TYP. (4,70) P05 2 .937 (23,80) P05 1 EPOXY SEAL .155 TYP. (3,94) .080 TYP .094 DIA. (2,390) TYP. (2,03) TERM. WIDTH

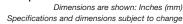
MOM. = Momentary

\*\* U11 through U413 model nos. c with all options when ordered with G, Q, R or S contact material.

\* Wiring for 3-way switch

Terminal Nos. For Reference Only





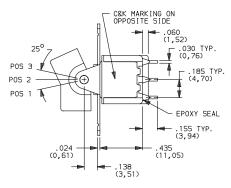


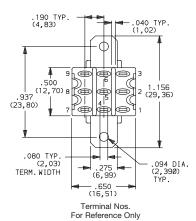
Part number shown: 7201J1ZQE2

#### **SWITCH FUNCTION**

			SWIT	TCH FUNCT	ION	CON	CONNECTED TERMINALS		
			POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
NO. POLES	MODEL NO.	UL** MODEL			4				
		NO.	C&K marl	king on oppo	osite side	C&K	marking on opposit	te side	SCHEMATIC
3P	7301	U31	ON	NONE	ON	2-3,5-6,8-9	N/A	2-1,5-4,8-7	2 5 (COMM) 8 9
	7303	U33	ON	OFF	ON	2-0,0-0,0-9	OPEN	2-1,5-4,0-7	3PDT

3PDT

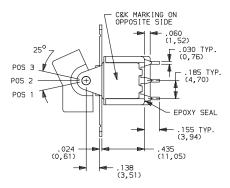




Part number shown: 7301J1ZQE2

	7401	U41	ON	NONE	ON		N/A		
4P	7405	U45	MOM.	OFF	мом.	2-3,5-6,8-9,11-12	OPEN	2-1,5-4,8-7,11-10	1 • 3 4 • 6 7 • 9 10 • 12
	7411*	U411*	ON	ON	ON		2-3,5-4,8-9,11-10		4PDT

**4PDT** 



.190 TYP (4,83) .040 TYP. (1,02) 12 🔘 **₽**}3 .500 (12,70) 937 (23,80) .094 DIA. (2,390) TYP. .080 TYP. (2,03) TERM. WIDTH . 275 (6,99) - .850 (21,59) Terminal Nos

For Reference Only

Part number shown: 7401J1ZQE2

MOM. = Momentary

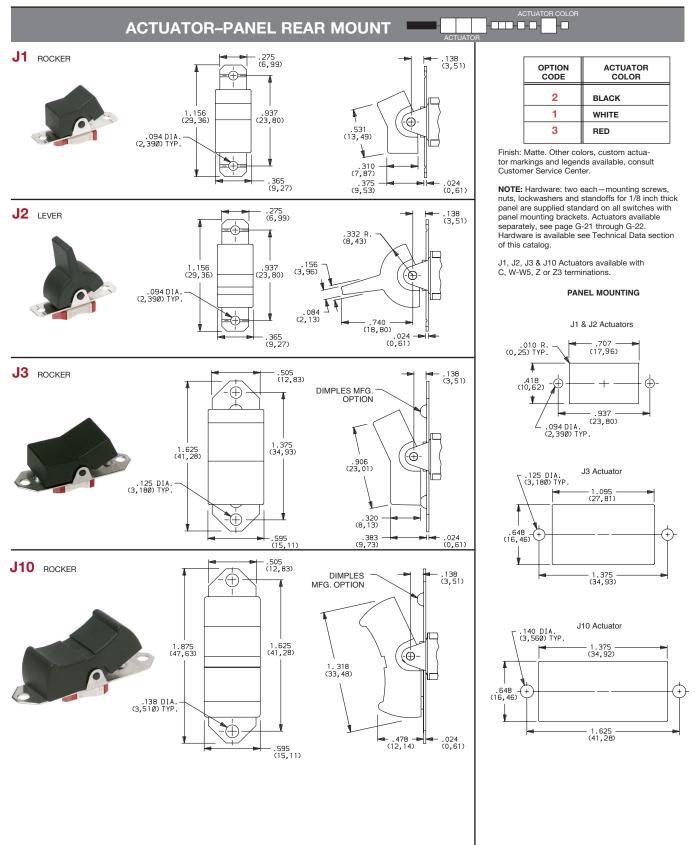
\*\* U11 through U411 model nos.  ${}_{\boldsymbol{c}}$   $\boldsymbol{\mathbf{N}}$  with all options when ordered with G, Q, R or S contact material.

\* Wiring for 3-way switch: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

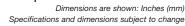




# Miniature Rocker & Lever Handle Switches







Third Angle Projection

OPTION CODE	ACTUATOR COLOR
2	BLACK
1	WHITE
3	RED

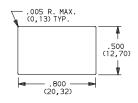
OPTION CODE	FRAME COLOR
2	BLACK
NONE	No Frame Color (J15 or J25options)
1	WHITE

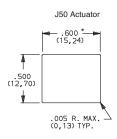
Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center.

NOTE: Actuators & frames available separately, see pages G-21 through G-22. J15, J16, J25, J26, J50 & J51 Actuators available with 71XX, 72XX, U1XX & U2XX models and C, W-W5, Z and Z3 terminations

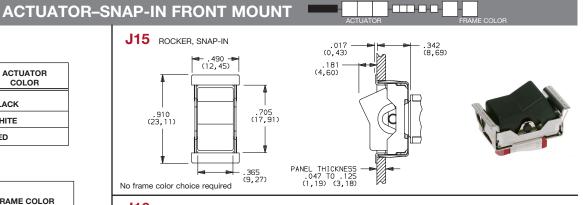
#### PANEL MOUNTING

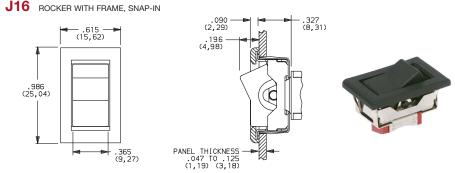
J15, J16, J25 & J26 Actuators

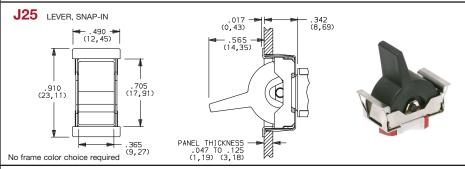


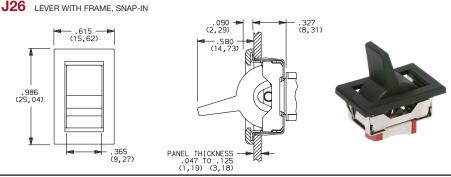


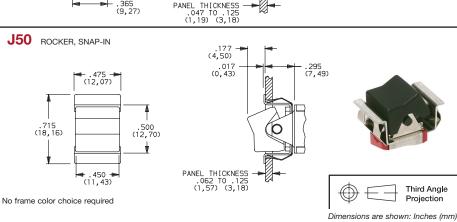
 $^{\star}$  For J50: Increase this dimension to .620/.625 (15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.



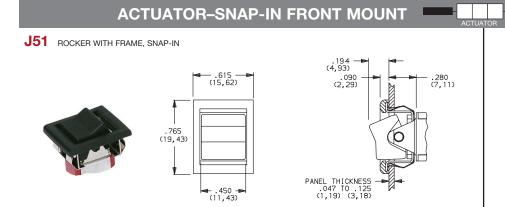


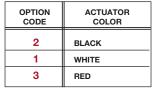






Specifications and dimensions subject to change





J52 ROCKER WITH FRAME FOR LED, SN	NAP-IN	
1.100 (27,94)		194 (4,93) .090 (2,29) (7,11) .280 (7,11) .280 (7,11) .280 (7,11) .280 (7,11) .280 (7,11) .280 (7,11) .280 (7,11) .280 (7,11) .280 .7,11)
For LED information, see page G-24		

OPTION CODE	FRAME COLOR
2	BLACK
NONE	No Frame Color (J15 or J25 options)
1	WHITE

Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer

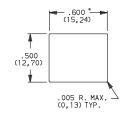
NOTE: Actuators & frames available separately, see pages G-21 through G-22. J51, J52, J60 & J61 Actuators available with 71XX, 72XX, U1XX & U2XX models and C, W-W5, Z and Z3 terminations.

# --.527 --(13**,**39) .017 (0,43) .715 (18,16) .500 (12,70) .093 (2,36)

+ .450 + (11,43)

### PANEL MOUNTING

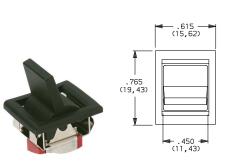
J51, J60 & J61 Actuators

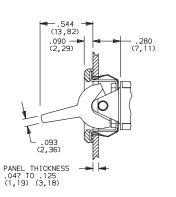


No frame color choice required

J60 LEVER, SNAP-IN

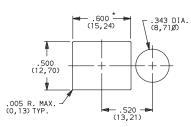
J61 LEVER WITH FRAME, SNAP-IN





PANEL THICKNESS .062 TO .125 (1,57) (3,18)

J52 Actuator



For J51, J52: Increase this dimension to .620/.625 (15,75/15,88) for .060/.125(1,52/3,18) thk. panels.





----

# **ACTUATOR-SNAP-IN FRONT MOUNT**

ACTUATOR COLOR	
ACK	

BLACK

WHITE

RED

OPTION CODE	FRAME COLOR
2	BLACK
NONE	No Frame Color (J90 options)
1	WHITE

OPTION

CODE

2

1

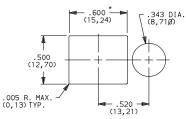
3

Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center.

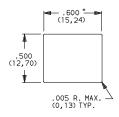
NOTE: Actuators & frames available separately, see pages G-21 through G-22. J62, J90 & J91
Actuators available with 71XX, 72XX, U1XX &
U2XX models and C, W-W5, Z & Z3 terminations.

#### PANEL MOUNTING

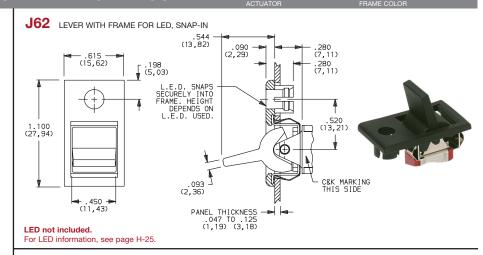
#### J62 Actuator

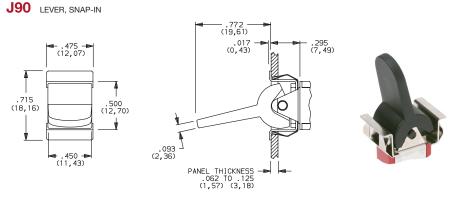


J90, J91 & J93 Actuators

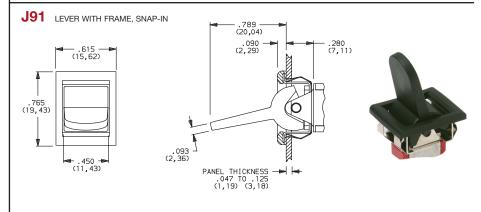


For J90: Increase this dimension to .620/.625 (15,75/15,88) for .091/.125 (2,31/3,18) thk. panels. For J91: Increase this dimension to .620/.625 (15,75/15,88) for .060/.125 (1,52/3,18) thk. panels.





No frame color choice required.

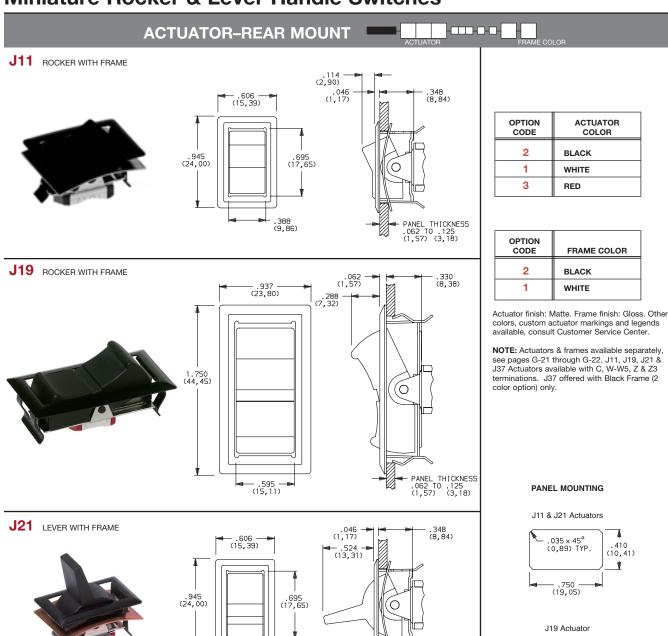


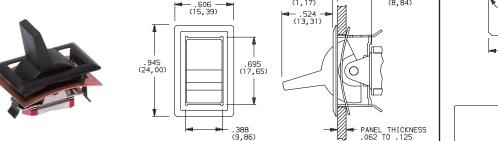


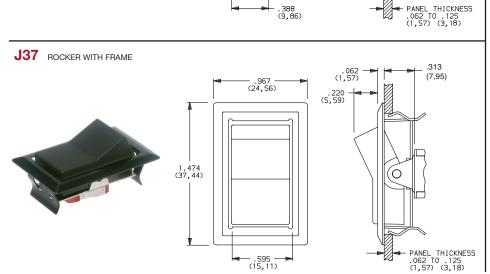
G

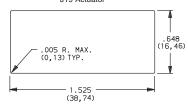
# 7000 Series

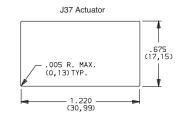
# Miniature Rocker & Lever Handle Switches















# **ACTUATOR-PC MOUNT**



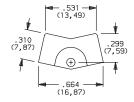


Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center

NOTE: Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

Actuators available separately, see page G-21 through G-22. J1, J2 actuators available with A, A3, AV2, AV3, AW3 & V2 terminations. J3 actuators available with AV2, AV3 & V2-V61 terminations. J50 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2, AV3, AW3 (DP, 3P models only) & V2-V61 terminations.

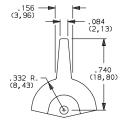
### J1 ROCKER

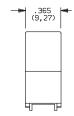






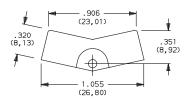
### J2 LEVER







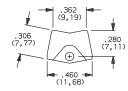
### J3 ROCKER







### J50 ROCKER









G

# 7000 Series

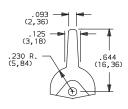
# Miniature Rocker & Lever Handle Switches

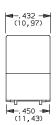
### **ACTUATOR-PC MOUNT**



J60 LEVER







OPTION CODE	ACTUATOR COLOR
2	BLACK
1	WHITE
3	RED

Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center

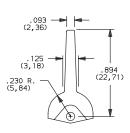
NOTE: Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

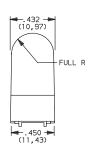
Actuators available separately, see page G-21 through G-22. J60 & J90 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2, AV3, AW3 (DP, 3P models only) & V2-V61 terminations.

### **J90** LEVER

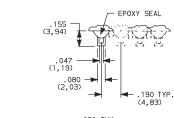
Z SOLDER LUG

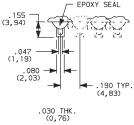






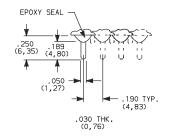
### **TERMINATIONS**

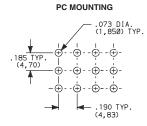




SPDT thru 4PDT

Not available with P, R or S contact materials Available actuators, see pages G-7 through G-13. C PC THRU-HOLE

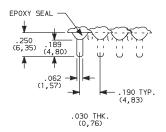




SPDT thru 4PDT

NOTE: Available actuators, see pages G-7 through G-13.

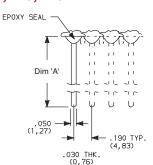
### **Z3** QUICK CONNECT



SPDT thru 4PDT

Not available with P, R or S contact materials. Available actuators, see pages G-7 through G-13. Mating quick connector available; order part number 530100000, page G-22.

### W, W3, W5 WIRE WRAP



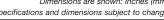
OPTION CODE	DIM 'A'		
W	.750 (19,05)		
W3	.425 (10,80)		
W5	1.305 (33,15)		

### SPDT thru 4PDT

NOTE: Available actuators, see pages G-7 through G-13.

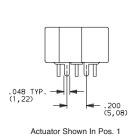


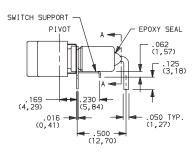


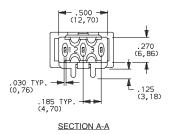


# **TERMINATIONS**

### A RIGHT ANGLE, PC THRU-HOLE



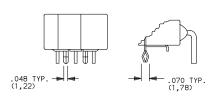




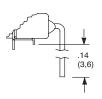


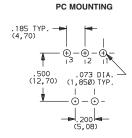
7101J1ABE2 Horizontal Actuation **SPDT** 

A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



AW3 RIGHT ANGLE, EXTENDED, PC THRU-HOLE

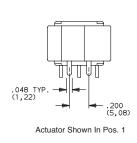


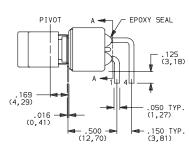


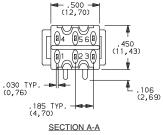
Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

NOTE: PC pattern must clear switch support leg.

### A RIGHT ANGLE, PC THRU-HOLE









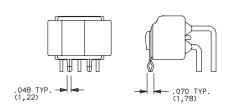
7201J1ABE2 Horizontal Actuation **DPDT** 

(3,81)

PC MOUNTING

.185 TYP.

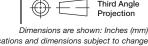
### A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.







Specifications and dimensions subject to change

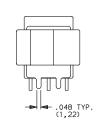
# Miniature Rocker & Lever Handle Switches

### **TERMINATIONS**

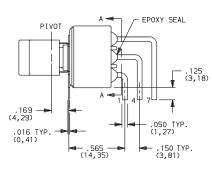
A RIGHT ANGLE, PC THRU-HOLE

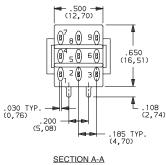


7301J1ABE2 Horizontal Actuation 3PDT

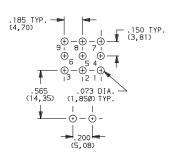


Actuator Shown In Pos. 1





#### PC MOUNTING



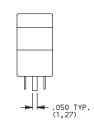
Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

**AV2** VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH

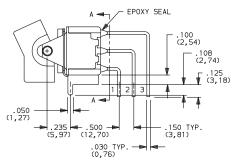


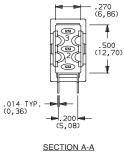
7101J1AV2BE2 Vertical Actuation

**SPDT** 



Actuator Shown In Pos. 1



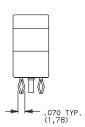


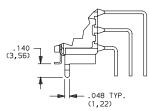
PC MOUNTING

 $\oplus$ -⊕

 $\odot - \odot -$ 

AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH





Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.



.150 TYP. (3,81)



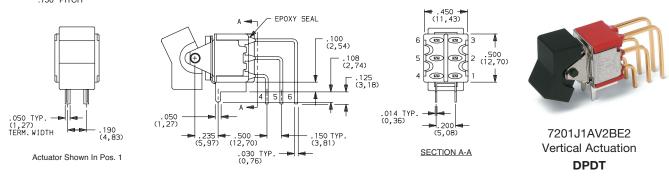
Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

Third Angle Projection

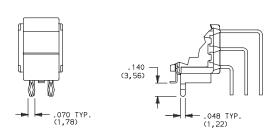
G-15

# **TERMINATIONS**

#### **AV2** VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



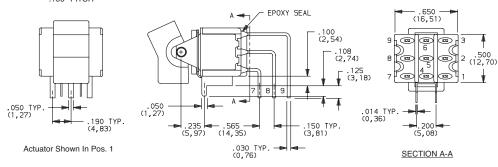
#### AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH



Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

# PC MOUNTING -3⊕-6⊕-.150 TYP. €⊕-¸⊕-⊕−ਁ⊕ .073 DIA. (1,850) TYP. $\odot - \odot -$ ا<sub>. 200</sub>4 (5, 08)

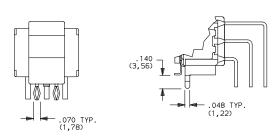
#### AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH





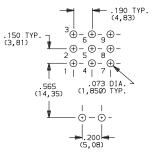
7301J1AV2BE2 Vertical Actuation 3PDT

#### AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH



Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

# PC MOUNTING





Dimensions are shown: Inches (mm)



Specifications and dimensions subject to change

# Miniature Rocker & Lever Handle Switches

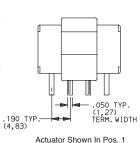
### **TERMINATIONS**

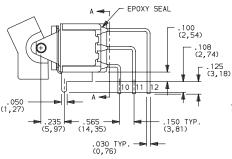


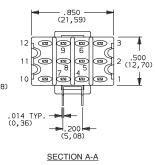




7401J1AV2BE2 Vertical Actuation **4PDT** 



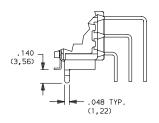




PC MOUNTING

AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH

.070 TYP.



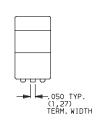
Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

**V**5

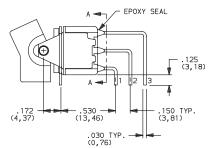
VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH

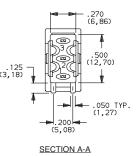


7101J1V5BE2 Vertical Actuation SPDT

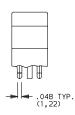


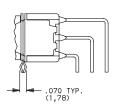
Actuator Shown In Pos. 1



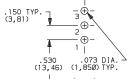


V51 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH

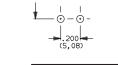


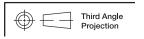


Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.



PC MOUNTING

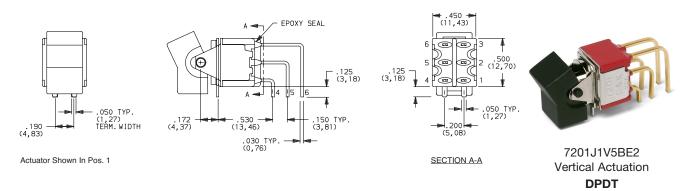




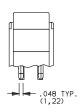


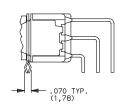
# **TERMINATIONS**

#### V5 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH

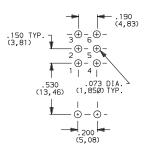


V51 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH





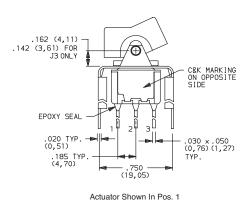
#### PC MOUNTING



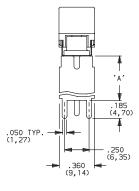
Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

### V2, V6, V7, V8 VERTICAL MOUNT, V-BRACKET

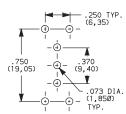
V61 VERTICAL MOUNT, V-BRACKET, SNAP-IN



Not available with I seal option. Available actuators, see pages G-6 and G-12.



# PC MOUNTING

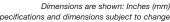




7101J1 BE2 **SPDT** 

DIM 'A'
.555 (14,10)
.460 (11,68)
.630 (16,00)
.953 (24,21)



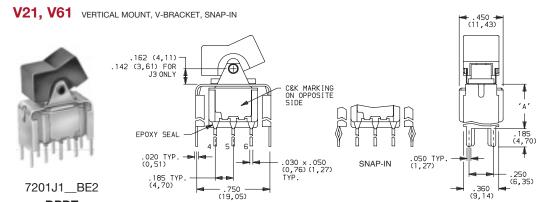




15 Jan 21

### **TERMINATIONS**

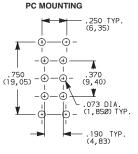




Actuator Shown In Pos. 1

(19,05)

Actuator Shown In Pos. 1

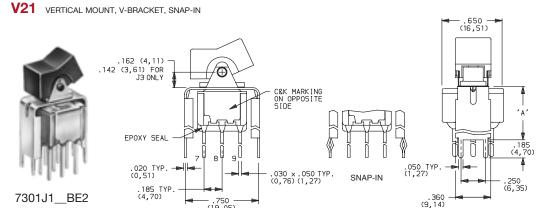


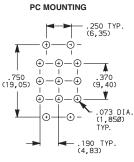
OPTION CODE DIM 'A' V2, V21 .555 (14,10) V6, V61 .460 (11,68) **V7** .630 (16,00) **V8** .953 (24,21)

**DPDT** 

Not available with I seal option. Available actuators, see pages G-6 and G-12.

### V2, V7, V8 VERTICAL MOUNT, V-BRACKET





OPTION CODE DIM 'A' V2, V21 .555 (14,10) **V7** .630 (16,00) **V**8 .953 (24,21)

.250 TYP. (6,35)

¥

.190 TYP. (4,83)

.073 DIA. (1,85Ø) TYP.

PC MOUNTING

**—** 

(±)

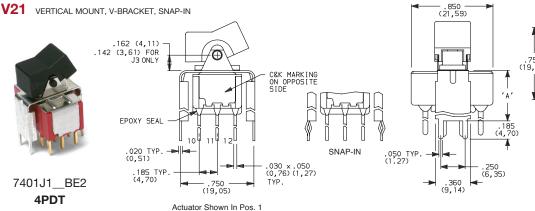
**⊕** 

(F)

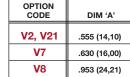
Not available with I seal option. Available actuators, see pages G-6 and G-12.

3PDT

# V2, V7, V8 VERTICAL MOUNT, V-BRACKET



Not available with I seal option. Available actuators, see pages G-6 and G-12.





Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

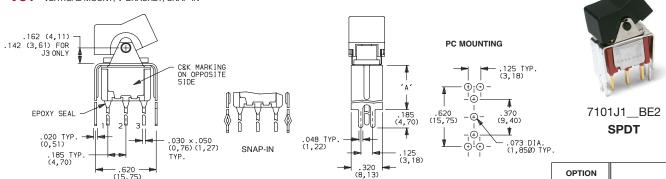


G-19

G

V3, V4, V9 VERTICAL MOUNT, V-BRACKET

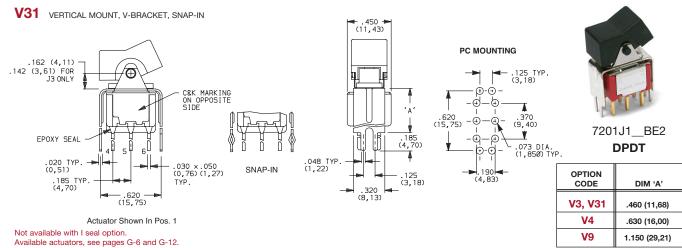
V31 VERTICAL MOUNT, V-BRACKET, SNAP-IN



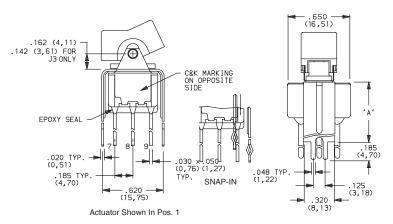
Actuator Shown In Pos. 1

Not available with I seal option. Available actuators, see pages G-6 and G-12.

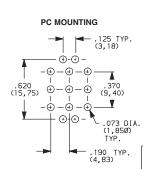
V3, V4, V9 VERTICAL MOUNT, V-BRACKET



### V4, V9 VERTICAL MOUNT, V-BRACKET



Not available with I seal option. Available actuators, see pages G-6 and G-12.





CODE

V3, V31

**V**4

**V**9

DIM 'A'

.460 (11,68)

.630 (16,00)

1.150 (29,21)

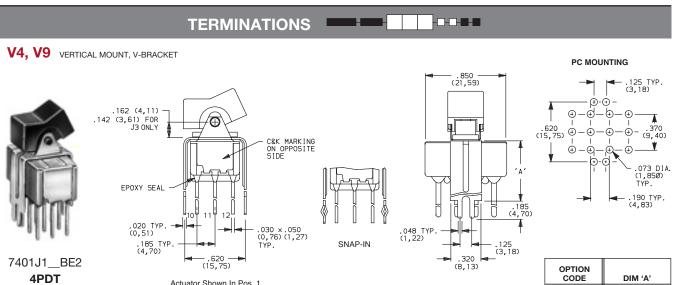
7301J1\_\_BE2 3PDT

OPTION CODE	DIM 'A'	
V4	.630 (16,00)	
<b>V</b> 9	1.150 (29,21)	





# Miniature Rocker & Lever Handle Switches



Not available with I seal option. Available actuators, see pages G-6 and G-12.

### CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
В	GOLD <sup>1</sup>	GOLD <sup>1</sup>	LOW LEVEL/	
Р	GOLD	MATTE-TIN <sup>6</sup>	DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
Q	OII VED 4.5	SILVER 5	BOWER	5 44400 0 400 0 40 00 00 00 00 00 00 00 0
S	SILVER <sup>4,5</sup>	MATTE-TIN <sup>6</sup>	POWER	5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC.
G	GOLD OVER SILVER <sup>2,3</sup>	GOLD <sup>3</sup>	LOW LEVEL/DRY	0 4 VA MAX @ 20 V AC OR DC MAX OR 5 AMPS @
R	GOLD OVERTOILVERT	MATTE-TIN <sup>6</sup>	CIRCUIT OR POWER	120 V AC OR 28 V DC; 2 AMPS @ 250 V AC.

- \* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.
- <sup>1</sup> CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
- <sup>2</sup> END CONTACTS: Coin silver, with gold plate over nickel plate.
- $^{\mbox{\footnotesize 3}}$  CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- $^{\rm 4}$  END CONTACTS: Coin silver, silver plated.
- <sup>5</sup> CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.
- <sup>6</sup> TERMINALS: Copper alloy, with matte-tin over nickel plate.

- U11-U415 model numbers  $\ c$  with all options when ordered with G, Q, S & R contact material.
- B contact material standard with all terminations except C, Z & Z3.
- Q contact material standard with C, Z & Z3 terminations.
- P, S & R, contact materials not available with Z & Z3 terminations.

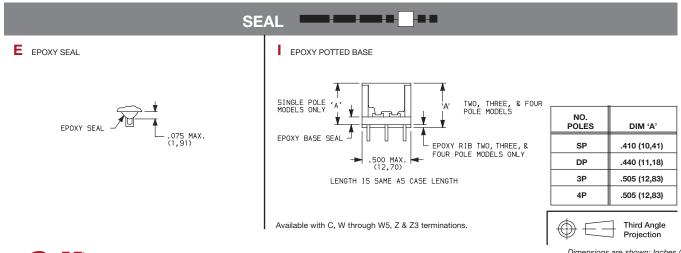
NOTE: Any models supplied with Q, B, G S, P & R contact material are RoHS compliant.

**V**4

**V**9

.630 (16,00)

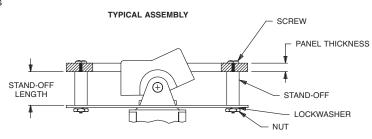
1.150 (29,21)



### **AVAILABLE HARDWARE**

Panel mounting hardware for rocker and lever handle switches is available separately. Mounting hardware consists of two screws, two nuts, two standoffs and two lockwashers per switch, and is available for panel thicknesses of 1/16, 3/32 and 1/8 inch. See part numbers below.

Qty 2	Part Number 761103000	Description Standoffs
2	764100000	Mounting screws
2	764200000	Lock washers
2	764300000	Hex nuts



#### J1 & J2 actuators

PART NO.	PANEL THK.	STANDOFF LENGTH
761103000	1/8 IN. (3,18)	.233 (5,92)

#### J3 actuators

PART NO.	PANEL THK.	STANDOFF LENGTH
770603000	1/8 IN. (3,18)	.233 (5,92)

#### J10 actuators

PART NO.	PANEL THK.	STANDOFF LENGTH
770703000	1/8 IN. (3,18)	.233 (5,92)

#### MATERIAL

Screws, nuts, lockwashers: Stainless steel. Standoffs: Nylon, standard.





Finish: Matte

Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

Finish: Matte

### **AVAILABLE HARDWARE** J90 & J91 Actuators J10 & J19 Actuators Fits Z3 Termination female connector PART NO. PART NO. 598001000 WHITE 769501000 WHITE 598002263 BLACK 769502263 BLACK PART NO. 598003000 RED 769503000 RED 530100000 Material: Nylon Material: Nylon Available in loose pieces. Finish: Matte Finish: Matte Frame for J11 & J21 Actuators Frame for J16 & J26 Actuators Frame for J51, J61 & J91 Actuators PART NO. PART NO. PART NO. 459101000 WHITE 615601000 WHITE 764500746 BLACK ENAMEL BLACK 459102000 615602263 BLACK 764500747 WHITE ENAMEL 459103000 RED 615603000 RED 764601106 RETAINING SPRING Material: Nylon Material: Nylon Finish: Matte Finish: Matte Material: Spring Steel Frame for J37 Actuator Frame for J52 & J62 Actuators Frame for J19 Actuator

PART NO.

781000746 BLACK ENAMEL 781000747 WHITE ENAMEL

Material: Spring Steel

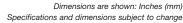


PART NO. 445400746 BLACK ENAMEL Material: Spring Steel

PART NO. 613301000 WHITE 613302263 BLACK 613303000 RED

Material: Nylon Finish: Matte







www.ckswitches.com

### **AVAILABLE HARDWARE**

Frames snap into panel opening and are independent from switch mounting. Accurate positioning of the PC mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and frame. Available in two basic styles and four panel thicknesses .047-.125 in. Material: Nylon. Finish: Matte.

#### TYPICAL APPLICATION



#### J1 & J2 Actuators



.047" (1,19) PANEL THK.

.062" (1,57) PANEL THK.

.090" (2,29) PANEL THK.

.125" (3,18) PANEL THK.

PART NO. 452902263

PART NO. 452702263 PART NO. 452802263 PART NO.

452602263 BLACK

J50, J60 & J90 Actuators



.047" (1,19) PANEL THK.

.062" (1,57) PANEL THK.

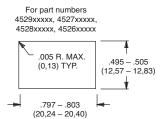
.090" (2,29) PANEL THK.

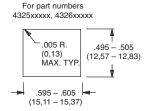
.125" (3,18) PANEL THK.

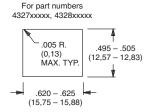
PART NO. 432502263 PART NO. 432602263 PART NO. 432702263 PART NO.

432802263 BLACK

PANEL MOUNTING







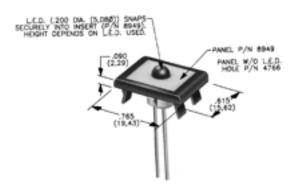
Third Angle Projection

### **AVAILABLE HARDWARE**

Panel Inserts

Will fit Separate Snap-in frames for J50, J60 & J90 actuators

Above frames (part nos. 432XXXXXX) are also available with insert which accepts LED for indicator light assembly. Order insert separately from frame. Blank insert panel (without hole for LED) also available. LED not included.



PANEL INSERT WITH HOLE FOR LED BLANK PANEL INSERT WITHOUT HOLE FOR LED

PART NO.

PART NO.

894902000

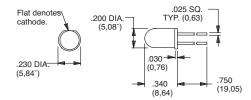
476602000 BLACK

NOTE: Special colors, custom markings available, consult Customer Service Center.

### **LED INFORMATION**

Process Information: Soldering to LED leads must be completed within 5 seconds at 500° F (260°C) maximum.

LEDs are not supplied with J52, J62 options. LED snaps into switch frame surrounding actuator and is wired externally.



Suggested LED for J52 & J62 options. Dimensions for reference only.

