

# 7000 Series

## Miniature Rocker & Lever Handle Switches

### 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



### 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-21 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-21 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-21 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-5 through G-25. 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

- 7101 SP On-None-On
- 7103 SP On-Off-On
- 7105 SP Mom.-Off-Mom.
- 7107 SP On-Off-Mom.
- 7108 SP On-None-Mom.
- 7109 SP None-On-Mom.
- 7201 DP On-None-On
- 7203 DP On-Off-On
- 7205 DP Mom.-Off-Mom.
- 7207 DP On-Off-Mom.
- 7208 DP On-None-Mom.
- 7211 DP On-On-On
- 7213 DP On-On-Mom.
- 7215 DP Mom.-On-Mom.
- 7301 3P On-None-On
- 7303 3P On-Off-On
- 7401 4P On-None-On
- 7405 4P Mom.-Off-Mom.
- 7411 4P On-On-On

**Note:** UL models available, see pages H-5 and H-6.

#### Actuator

- J1 .531" long rocker
- J2 Lever
- J3 .906" long rocker
- J8 .699" long rocker
- J10 1.318" long rocker
- J11 Rocker with frame
- J15 Rocker, snap-in
- J16 Rocker with frame, snap-in
- J19 Rocker with frame
- J21 Lever with frame
- J25 Lever, snap-in
- J26 Lever with frame, snap-in
- J37 Rocker with frame
- J50 Rocker
- J51 Rocker with frame
- J52 Rocker with frame for LED, snap-in
- J60 Lever
- J61 Lever with frame, snap-in
- J62 Lever with frame for LED, snap-in
- J90 Lever
- J91 Lever with frame, snap-in

#### Terminations

- A Right angle, PC thru-hole
- AV2 Vertical right angle, PC thru-hole
- C PC Thru-hole
- Z Solder lug
- A3 Right angle, snap-in, PC thru-hole
- AV3 Vertical right angle, snap-in, PC thru-hole
- AW3 Right angle, extended, PC thru-hole
- V2 .555" high, V-bracket
- V3 .460" high, V-bracket
- V4 .630" high, V-bracket
- V5 Vertical right angle, PC thru-hole
- V6 .460" high, V-bracket
- V7 .630" high, V-bracket
- V8 .953" high, V-bracket
- V9 1.150" high, V-bracket
- V31 .460" high, V-bracket, snap-in
- V51 Vertical right angle, snap-in
- V61 .460" high, V-bracket, snap-in
- W .750" long, wire wrap
- W3 .425" long, wire wrap
- W5 1.305" long, wire wrap
- Z3 Quick connect

#### Contact Material

- B Gold
- P Gold, matte tin
- Q Silver
- S Silver, matte-tin
- G Gold over silver
- R Gold over silver, matte-tin

#### Seal

- E Epoxy
- I Epoxy potted base

#### Actuator Color

- 2 Black
- 1 White
- 3 Red

#### Frame Color

- 2 Black
- NONE No frame color required
- 1 White

#### Metal Frame Color

- (J11, J19, J21 & J37 Actuators)
- 2 Black
- 1 White

Rocker



G



Dimensions are shown: Inches (mm)

Specifications and dimensions subject to change

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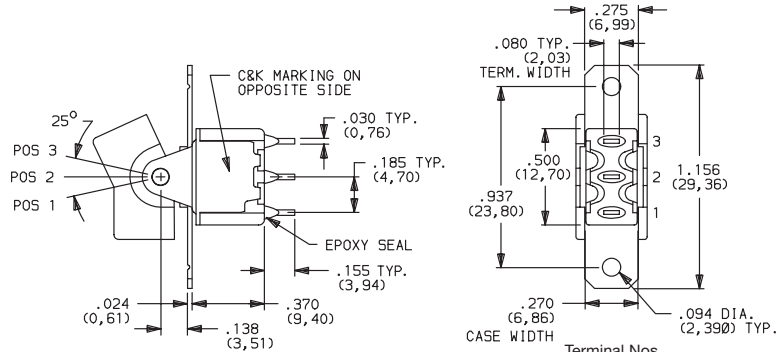
# 7000 Series Miniature Rocker & Lever Handle Switches

## SWITCH FUNCTION



| NO. POLES | MODEL NO. | UL** MODEL NO. | SWITCH FUNCTION                                                                   |                                                                                   |                                                                                   | CONNECTED TERMINALS                                                               |                                                                                     |                                                                                     | SCHEMATIC                                                                           |  |
|-----------|-----------|----------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
|           |           |                | POS. 1                                                                            | POS. 2                                                                            | POS. 3                                                                            | POS. 1                                                                            | POS. 2                                                                              | POS. 3                                                                              |                                                                                     |  |
|           |           |                |  |  |  |  |  |  |                                                                                     |  |
|           |           |                | C&K marking on opposite side                                                      |                                                                                   |                                                                                   | C&K marking on opposite side                                                      |                                                                                     |                                                                                     |                                                                                     |  |
| SP        | 7101      | U11            | ON                                                                                | NONE                                                                              | ON                                                                                | 2-3                                                                               | N/A                                                                                 | 2-1                                                                                 |  |  |
|           | 7103      | U13            | ON                                                                                | OFF                                                                               | ON                                                                                |                                                                                   | OPEN                                                                                |                                                                                     |                                                                                     |  |
|           | 7105      | U15            | MOM.                                                                              | OFF                                                                               | MOM.                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |
|           | 7107      | U17            | ON                                                                                | OFF                                                                               | MOM.                                                                              |                                                                                   | N/A                                                                                 |                                                                                     |                                                                                     |  |
|           | 7108      | U18            | ON                                                                                | NONE                                                                              | MOM.                                                                              | N/A                                                                               |                                                                                     | 2-1                                                                                 |                                                                                     |  |
|           | 7109      | U19            | NONE                                                                              | ON                                                                                | MOM.                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |

### SPDT

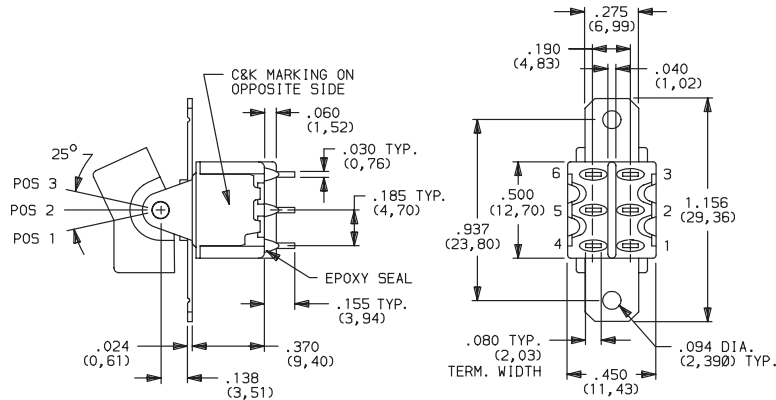


Part number shown: 7101J1ZQE2

Terminal Nos.  
For Reference Only

|    |       |       |      |      |      |         |      |         |              |  |  |
|----|-------|-------|------|------|------|---------|------|---------|--------------|--|--|
| DP | 7201  | U21   | ON   | NONE | ON   | 2-3,5-6 | N/A  | 2-1,5-4 | <br><br>DPDT |  |  |
|    | 7203  | U23   | ON   | OFF  | ON   |         | OPEN |         |              |  |  |
|    | 7205  | U25   | MOM. | OFF  | MOM. |         |      |         |              |  |  |
|    | 7207  | U27   | ON   | OFF  | MOM. |         | N/A  |         |              |  |  |
|    | 7208  | U28   | ON   | NONE | MOM. | 2-3,5-4 |      |         |              |  |  |
|    | 7211* | U211* | ON   | ON   | ON   | 2-3,5-4 |      |         |              |  |  |
|    | 7213* | U213* | ON   | ON   | MOM. |         |      |         |              |  |  |
|    | 7215* | U215* | MOM. | ON   | MOM. |         |      |         |              |  |  |

### DPDT



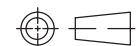
Part number shown: 7201J1ZQE2

Terminal Nos.  
For Reference Only

MOM. = Momentary

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

\* Wiring for 3-way switch, see Section N.



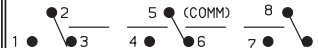
Third Angle  
Projection

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

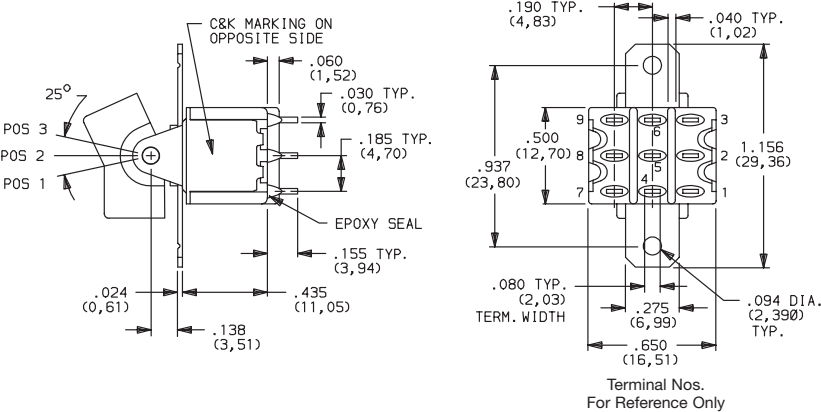


7000 Series  
Miniature Rocker & Lever Handle Switches

SWITCH FUNCTION

| NO. POLES | MODEL NO. | UL**<br>MODEL NO. | SWITCH FUNCTION                                                                   |                                                                                   |                                                                                   | CONNECTED TERMINALS                                                               |                                                                                   |                                                                                     | SCHEMATIC                                                                           |
|-----------|-----------|-------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|           |           |                   | POS. 1                                                                            | POS. 2                                                                            | POS. 3                                                                            | POS. 1                                                                            | POS. 2                                                                            | POS. 3                                                                              |                                                                                     |
|           |           |                   |  |  |  |  |  |  |                                                                                     |
|           |           |                   | C&K marking on opposite side                                                      |                                                                                   |                                                                                   | C&K marking on opposite side                                                      |                                                                                   |                                                                                     |                                                                                     |
| 3P        | 7301      | U31               | ON                                                                                | NONE                                                                              | ON                                                                                | 2-3,5-6,8-9                                                                       | N/A                                                                               | 2-1,5-4,8-7                                                                         |  |
|           | 7303      | U33               | ON                                                                                | OFF                                                                               | ON                                                                                |                                                                                   | OPEN                                                                              |                                                                                     |                                                                                     |

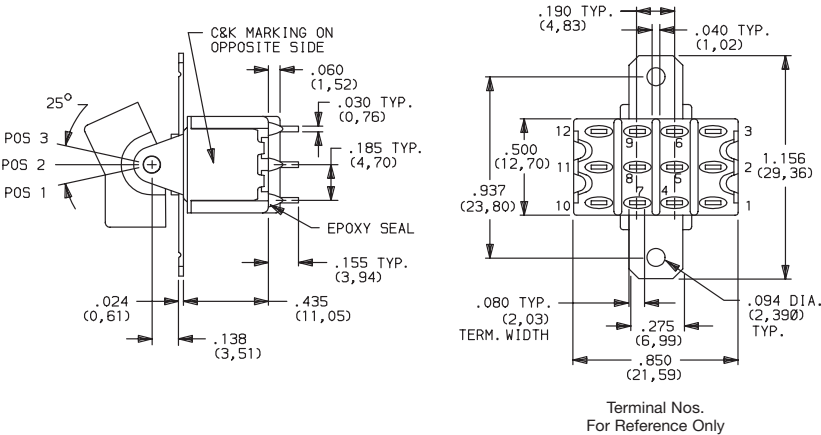
3PDT



Part number shown: 7301J1ZQE2

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

4PDT



Part number shown: 7401J1ZQE2

MOM. = Momentary

\*\* U11 through U411 model nos. 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.

Rocker

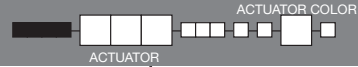
Third Angle  
Projection

Dimensions are shown: Inches (mm)

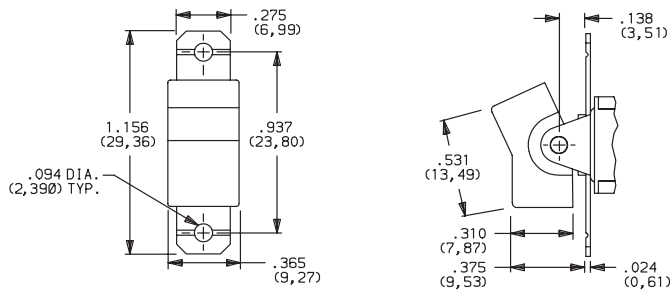
Specifications and dimensions subject to change

# 7000 Series Miniature Rocker & Lever Handle Switches

## ACTUATOR-PANEL REAR MOUNT



### J1 ROCKER



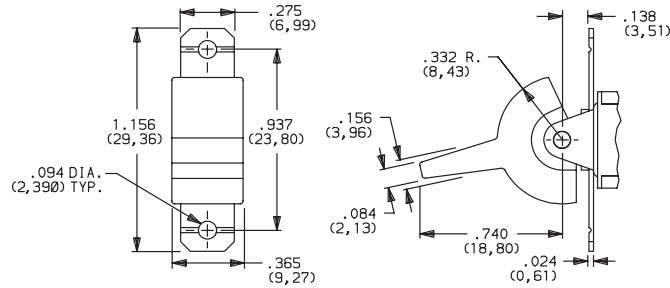
| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

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

**NOTE:** Hardware: two each—mounting screws, nuts, lockwashers and standoffs for 1/8 inch thick panel are supplied standard on all switches with panel mounting brackets. Actuators available separately, see page G-22. Hardware is available see Technical Data section of this catalog.

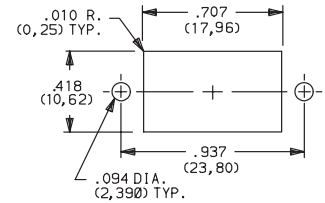
J1, J2, J3, J8 & J10 Actuators available with C, W-W5, Z or Z3 terminations.

### J2 LEVER

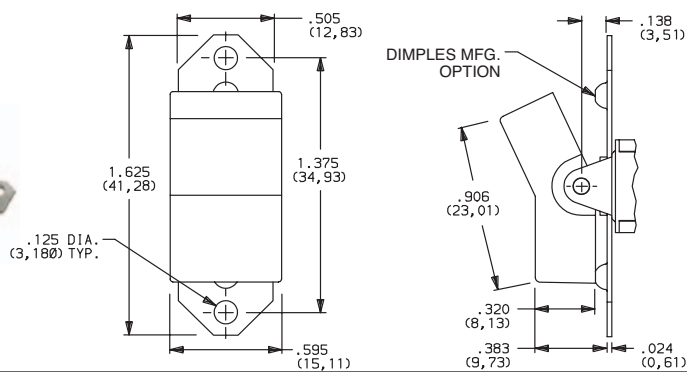


### PANEL MOUNTING

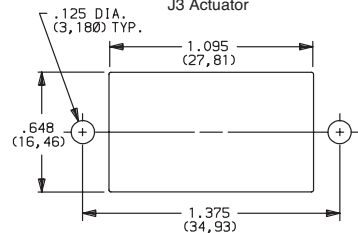
#### J1 & J2 Actuators



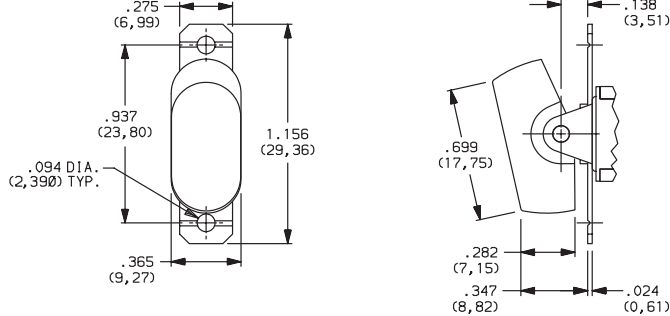
### J3 ROCKER



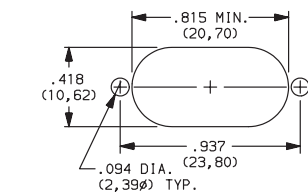
#### J3 Actuator



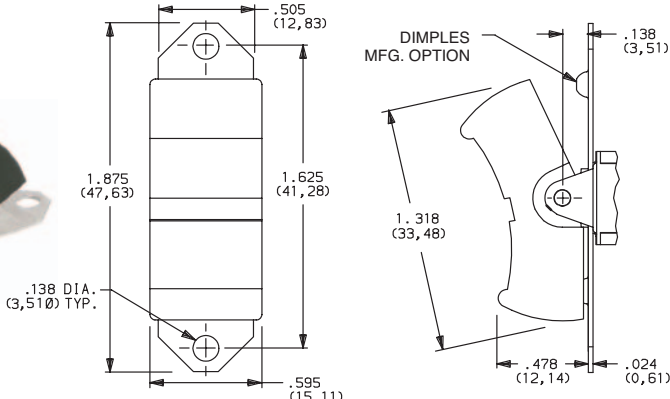
### J8 ROCKER



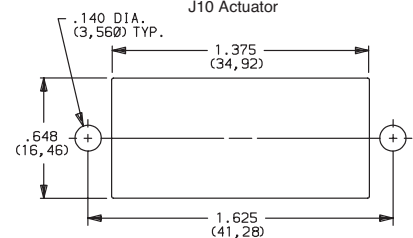
#### J8 Actuator



### J10 ROCKER



#### J10 Actuator



Third Angle Projection

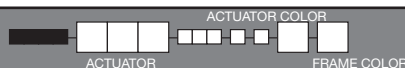
Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change

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# 7000 Series Miniature Rocker & Lever Handle Switches

## ACTUATOR-SNAP-IN FRONT MOUNT



| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

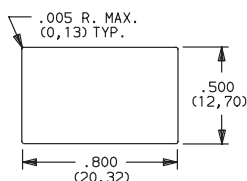
| OPTION CODE | FRAME COLOR                         |
|-------------|-------------------------------------|
| 2           | BLACK                               |
| NONE        | No Frame Color (J15 or J25 options) |
| 1           | WHITE                               |

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

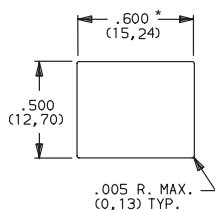
**NOTE:** Actuators & frames available separately, see pages G-22 and G-25. J15, J16, J25, J26, J50 & J51 Actuators available with 71XX, 72XX, U1XX & U2XX models and C, W-W5, Z and Z3 terminations.

### PANEL MOUNTING

J15, J16, J25 & J26 Actuators

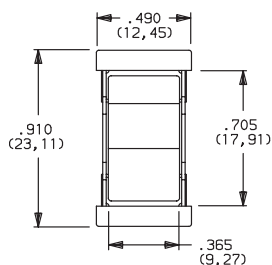


J50 Actuator

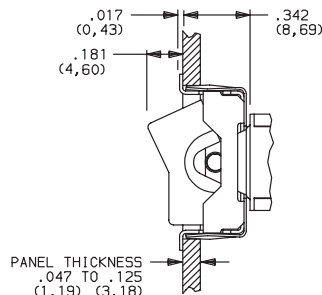


\* For J50: Increase this dimension to .620/.625 (15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.

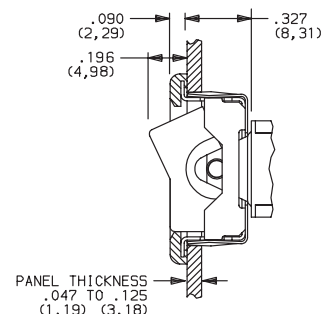
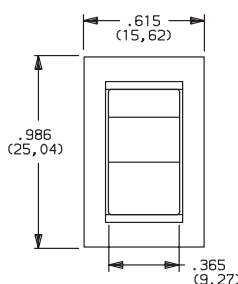
### J15 ROCKER, SNAP-IN



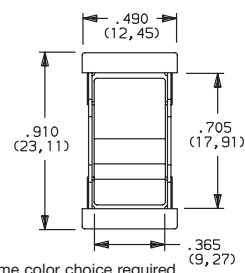
No frame color choice required



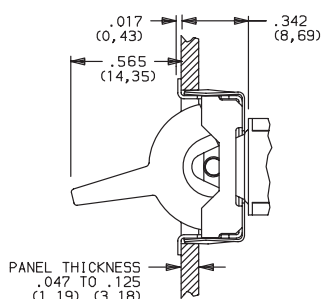
### J16 ROCKER WITH FRAME, SNAP-IN



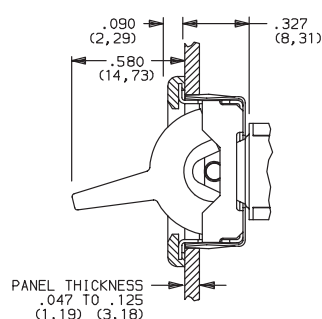
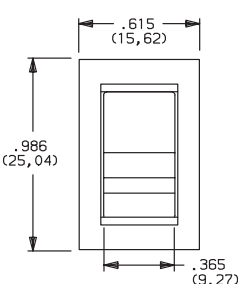
### J25 LEVER, SNAP-IN



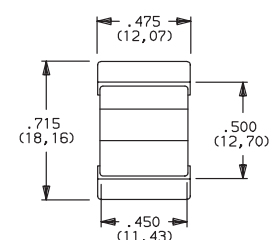
No frame color choice required



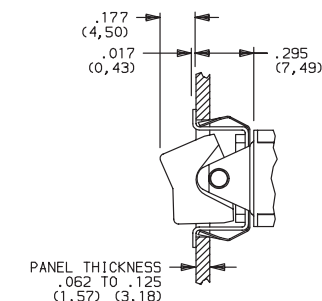
### J26 LEVER WITH FRAME, SNAP-IN



### J50 ROCKER, SNAP-IN



No frame color choice required



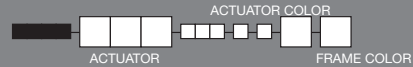
Third Angle Projection

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

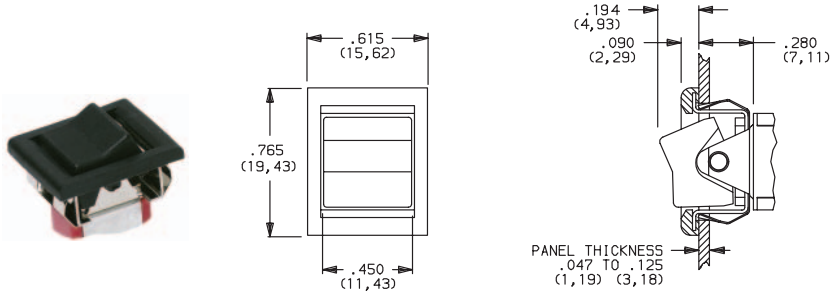


# 7000 Series Miniature Rocker & Lever Handle Switches

## ACTUATOR-SNAP-IN FRONT MOUNT

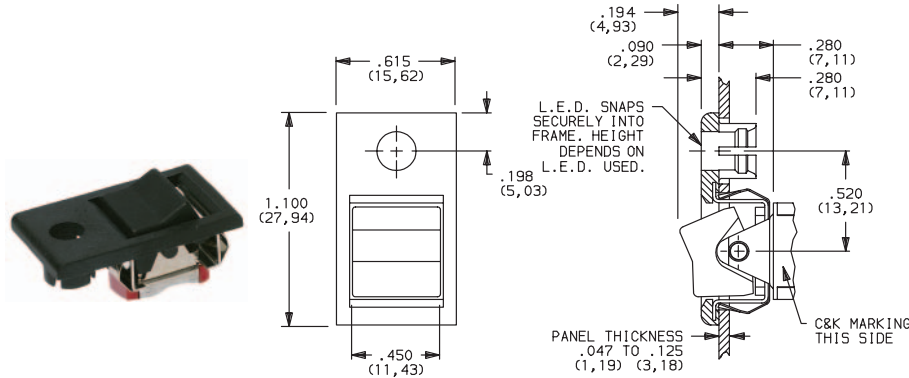


### J51 ROCKER WITH FRAME, SNAP-IN



| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

### J52 ROCKER WITH FRAME FOR LED, SNAP-IN



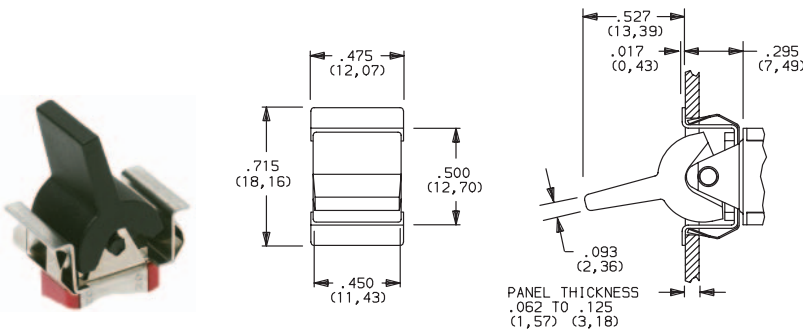
| OPTION CODE | FRAME COLOR                         |
|-------------|-------------------------------------|
| 2           | BLACK                               |
| NONE        | No Frame Color (J15 or J25 options) |
| 1           | WHITE                               |

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

**NOTE:** Actuators & frames available separately, see pages G-22 and G-25. J51, J52, J60 & J61 Actuators available with 71XX, 72XX, U1XX & U2XX models and C, W-W5, Z and Z3 terminations.

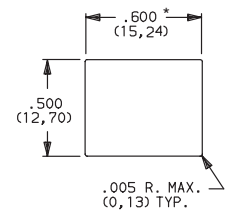
LED not included.  
For LED information, see page G-25.

### J60 LEVER, SNAP-IN

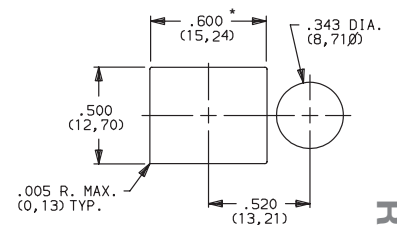


#### PANEL MOUNTING

J51, J60 & J61 Actuators

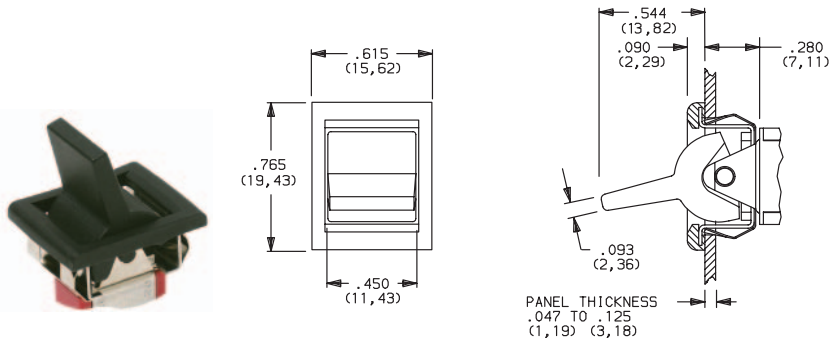


J52 Actuator



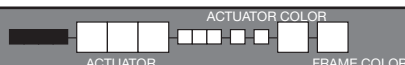
For J51, J52: Increase this dimension to .620/.625 (15,75/15,88) for .060/.125(1,52/3,18) thk. panels.

### J61 LEVER WITH FRAME, SNAP-IN



## 7000 Series Miniature Rocker & Lever Handle Switches

## ACTUATOR-SNAP-IN FRONT MOUNT



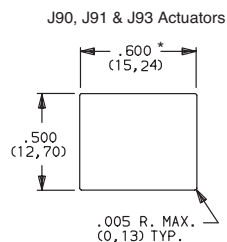
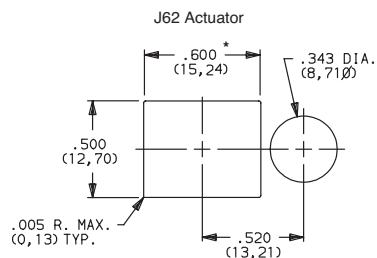
| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

| OPTION CODE | FRAME COLOR                             |
|-------------|-----------------------------------------|
| <b>2</b>    | <b>BLACK</b>                            |
| <b>NONE</b> | <b>No Frame Color<br/>(J90 options)</b> |
| <b>1</b>    | <b>WHITE</b>                            |

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

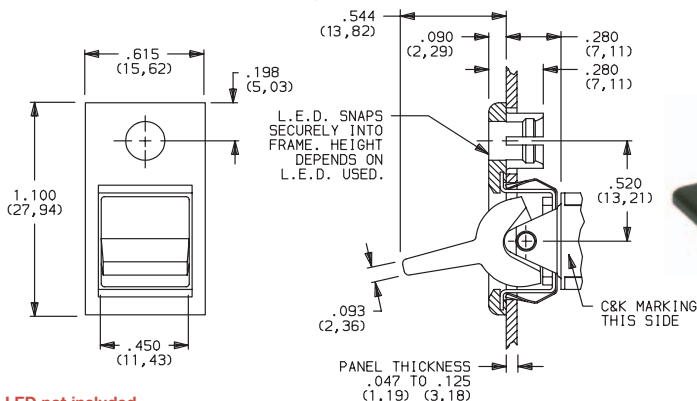
**NOTE:** Actuators & frames available separately, see pages G-22 and G-25. J62, J90 & J91 Actuators available with 71XX, 72XX, U1XX & U2XX models and C, W-W5, Z & Z3 terminations.

## PANEL MOUNTING



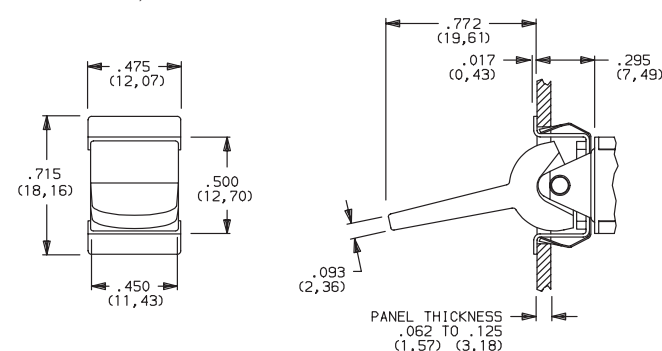
\* For J90: Increase this dimension to .620/.625 (15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.  
For J91: Increase this dimension to .620/.625 (15,75/15,88) for .060/.125 (1,52/3,18) thk. panels.

**J62** LEVER WITH FRAME FOR LED, SNAP-IN



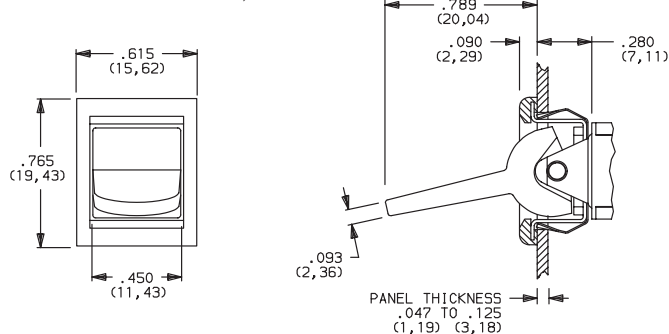
**LED not included.**  
For LED information, see page H-25.

**J90** LEVER, SNAP-IN



No frame color choice required.

**J91** LEVER WITH FRAME, SNAP-IN



# Rocker



G

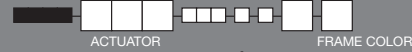


Dimensions are shown: Inches (mm)

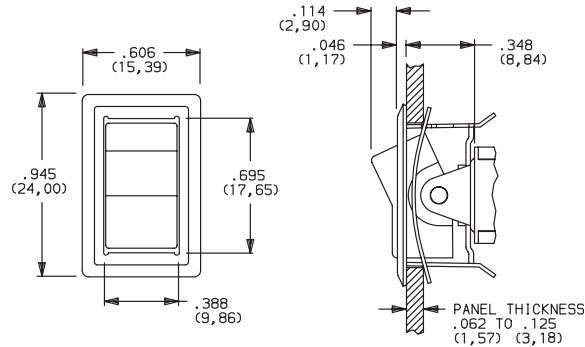
*Specifications and dimensions subject to change*

# 7000 Series Miniature Rocker & Lever Handle Switches

## ACTUATOR-REAR MOUNT



### J11 ROCKER WITH FRAME



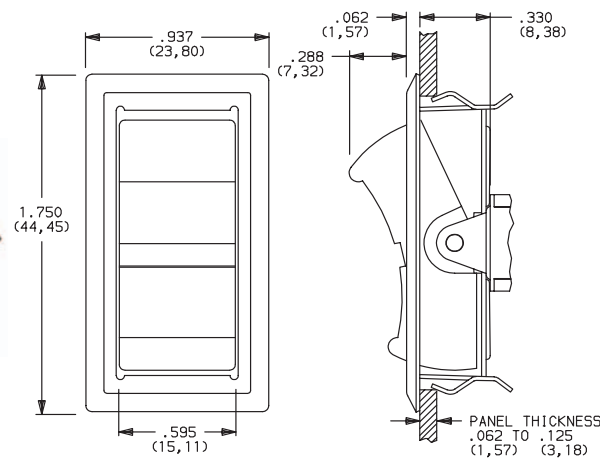
| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

| OPTION CODE | FRAME COLOR |
|-------------|-------------|
| 2           | BLACK       |
| 1           | WHITE       |

Actuator finish: Matte. Frame finish: Gloss. Other colors, custom actuator markings and legends available, consult Customer Service Center.

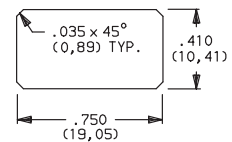
**NOTE:** Actuators & frames available separately, see pages G-22 and G-25. J11, J19, J21 & J37 Actuators available with C, W-W5, Z & Z3 terminations.

### J19 ROCKER WITH FRAME

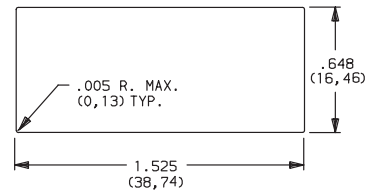


#### PANEL MOUNTING

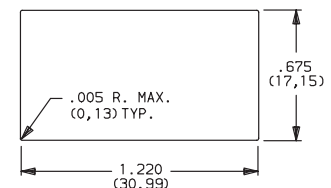
##### J11 & J21 Actuators



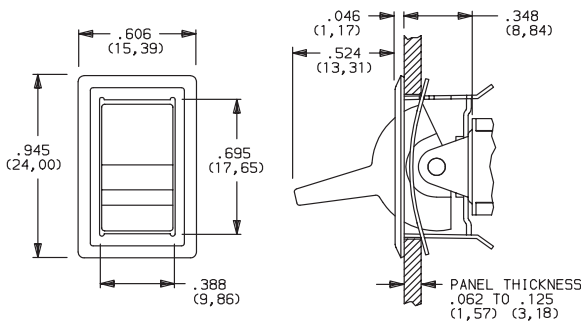
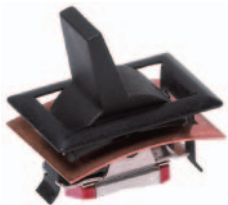
##### J19 Actuator



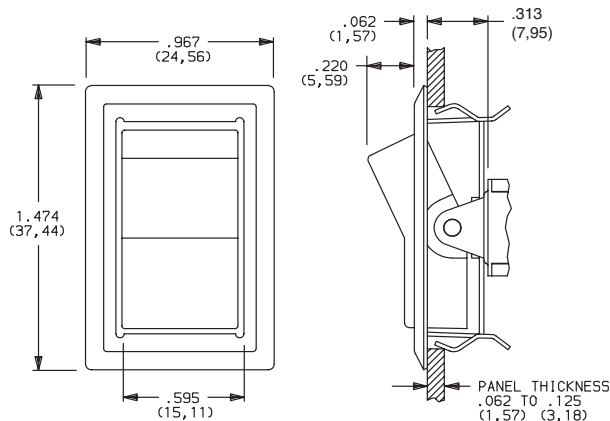
##### J37 Actuator



### J21 LEVER WITH FRAME



### J37 ROCKER WITH FRAME



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



## 7000 Series Miniature Rocker & Lever Handle Switches

Diagram illustrating the components of the actuator assembly:

- ACTUATOR**: A black rectangular component.
- ACTUATOR COLOR**: A series of colored squares (yellow, green, blue, red, orange, purple, pink, brown, grey, white, black) arranged horizontally.
- ACTUATOR COLOR BAR**: A long, thin black rectangular component.

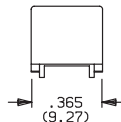
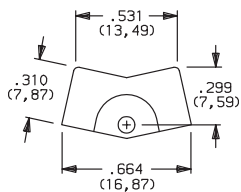
| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

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

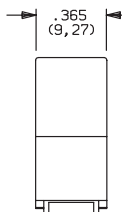
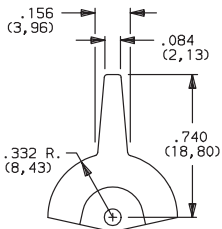
**NOTE:** Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

Actuators available separately, see page G-22.  
J1, J2 & J8 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.

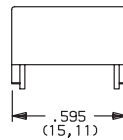
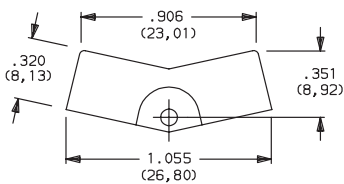
**J1**      **ROCKER**



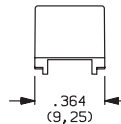
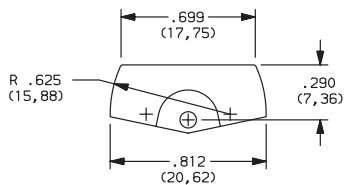
**J2** LEVER



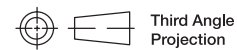
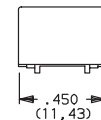
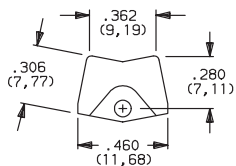
**J3**      **ROCKER**



**J8**      **ROCKER**



**J50**      **ROCKER**

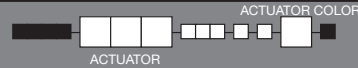


Dimensions are shown: Inches (mm)

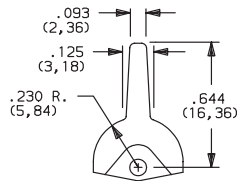
*Specifications and dimensions subject to change*

# 7000 Series Miniature Rocker & Lever Handle Switches

## ACTUATOR-PC MOUNT



### J60 LEVER

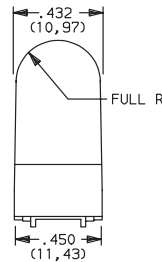
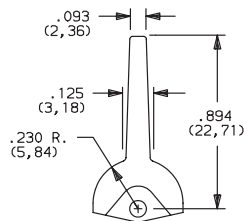


| OPTION CODE | ACTUATOR COLOR |
|-------------|----------------|
| 2           | BLACK          |
| 1           | WHITE          |
| 3           | RED            |

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.

### J90 LEVER

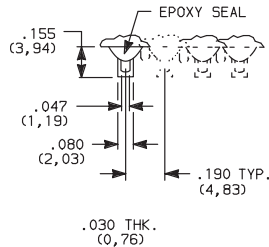


Actuators available separately, see page G-22. J60 & J90 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2, AV3, AW3 (DP, 3P models only) & V2-V61 terminations.

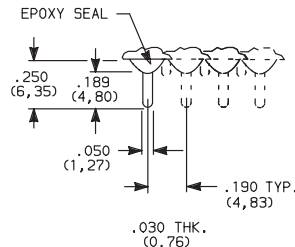
## TERMINATIONS



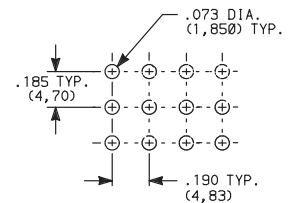
### Z SOLDER LUG



### C PC THRU-HOLE



### PC MOUNTING



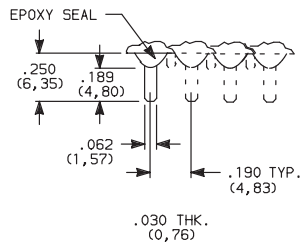
### SPDT thru 4PDT

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

### SPDT thru 4PDT

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

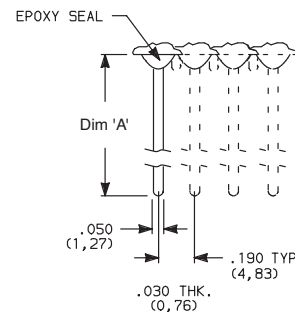
### Z3 QUICK CONNECT



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-23.

### SPDT thru 4PDT

### 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.



Third Angle Projection

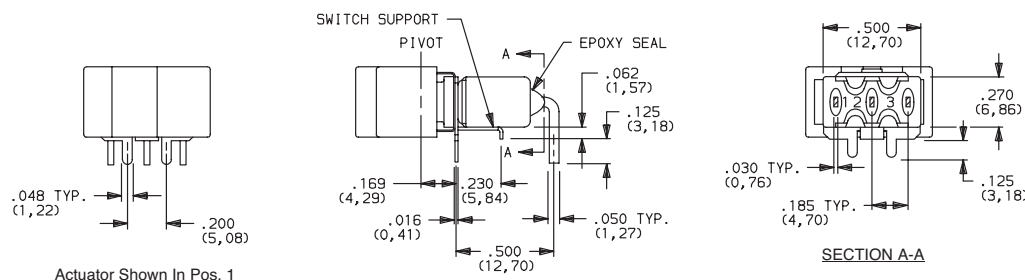
Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change



# 7000 Series Miniature Rocker & Lever Handle Switches

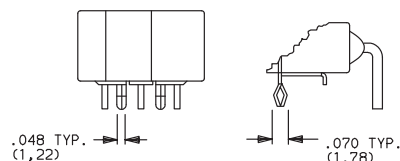
## TERMINATIONS

### A RIGHT ANGLE, PC THRU-HOLE

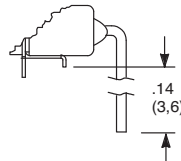


**7101J1ABE2**  
Horizontal Actuation  
**SPDT**

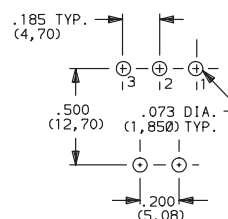
### A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



### AW3 RIGHT ANGLE, EXTENDED, PC THRU-HOLE



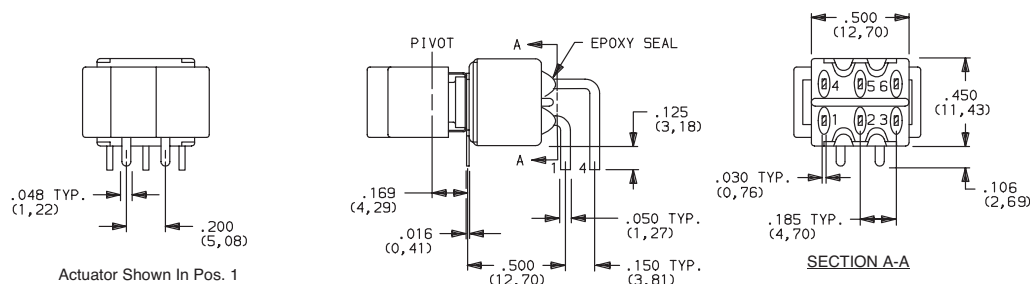
#### PC MOUNTING



Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.

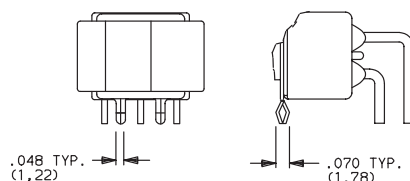
NOTE: PC pattern must clear switch support leg.

### A RIGHT ANGLE, PC THRU-HOLE

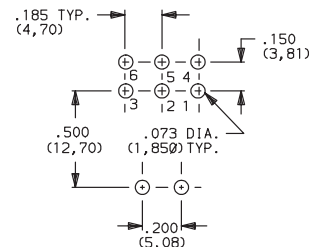


**7201J1ABE2**  
Horizontal Actuation  
**DPDT**

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



#### PC MOUNTING



Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.



Dimensions are shown: Inches (mm)

Specifications and dimensions subject to change

[www.ck-components.com](http://www.ck-components.com)



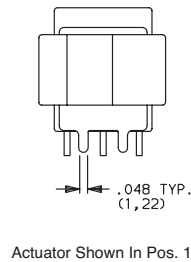
# 7000 Series Miniature Rocker & Lever Handle Switches

## TERMINATIONS

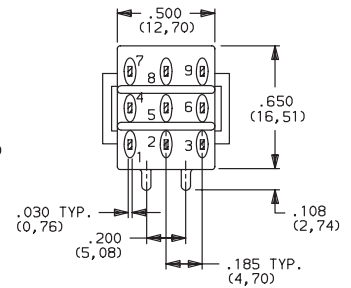
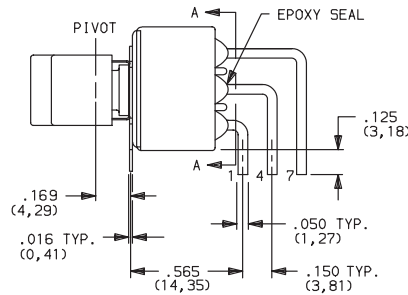
### A RIGHT ANGLE, PC THRU-HOLE



**7301J1ABE2**  
Horizontal Actuation  
**3PDT**

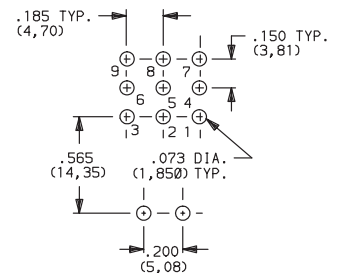


Actuator Shown In Pos. 1



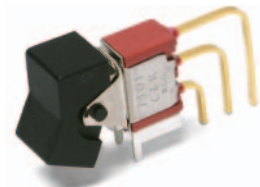
SECTION A-A

### PC MOUNTING

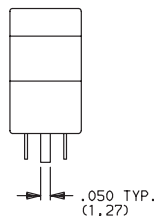


Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.

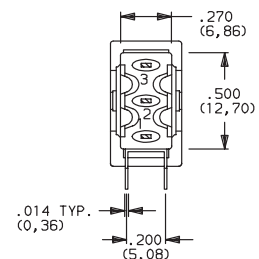
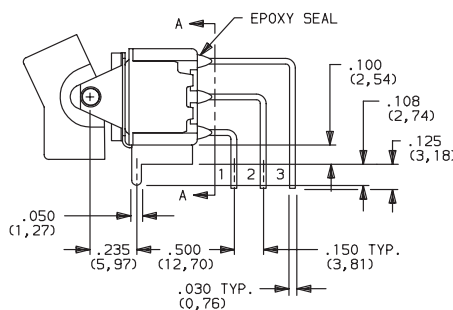
### AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



**7101J1AV2BE2**  
Vertical Actuation  
**SPDT**

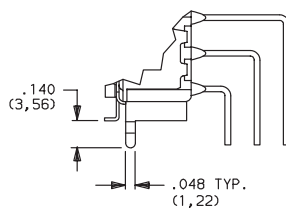
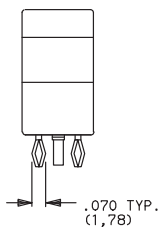


Actuator Shown In Pos. 1

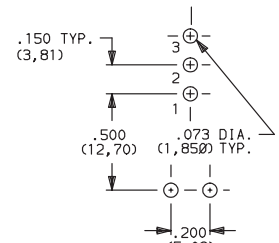


SECTION A-A

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



### PC MOUNTING



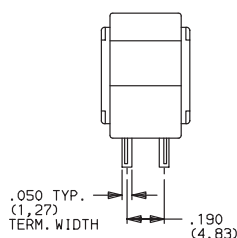
Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.



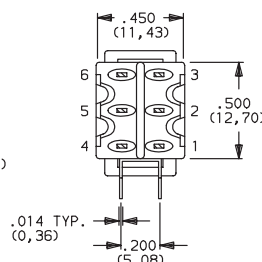
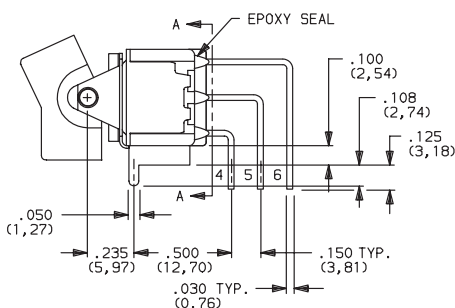
# 7000 Series Miniature Rocker & Lever Handle Switches

## TERMINATIONS

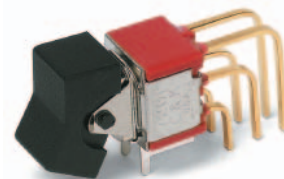
### AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



Actuator Shown In Pos. 1

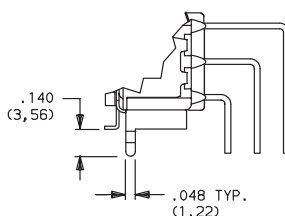
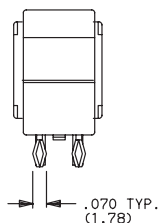


SECTION A-A

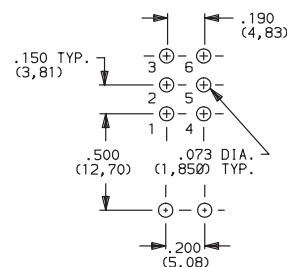


7201J1AV2BE2  
Vertical Actuation  
DPDT

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

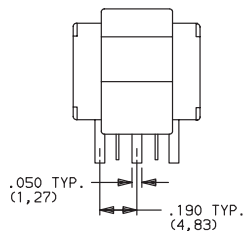


#### PC MOUNTING

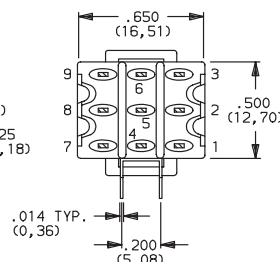
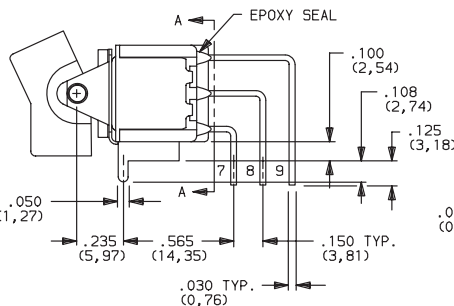


Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.

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



Actuator Shown In Pos. 1

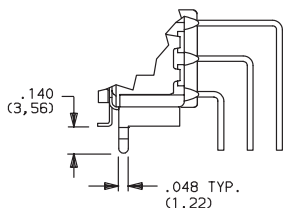
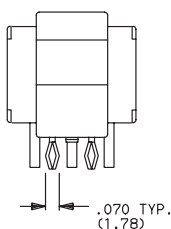


SECTION A-A

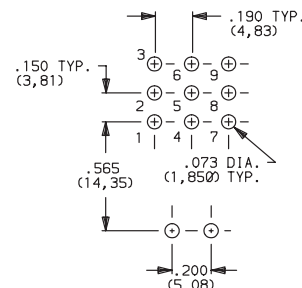


7301J1AV2BE2  
Vertical Actuation  
3PDT

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



#### PC MOUNTING



Rocker

Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.



Dimensions are shown: Inches (mm)

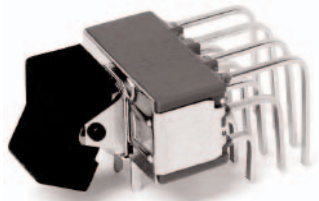
Specifications and dimensions subject to change

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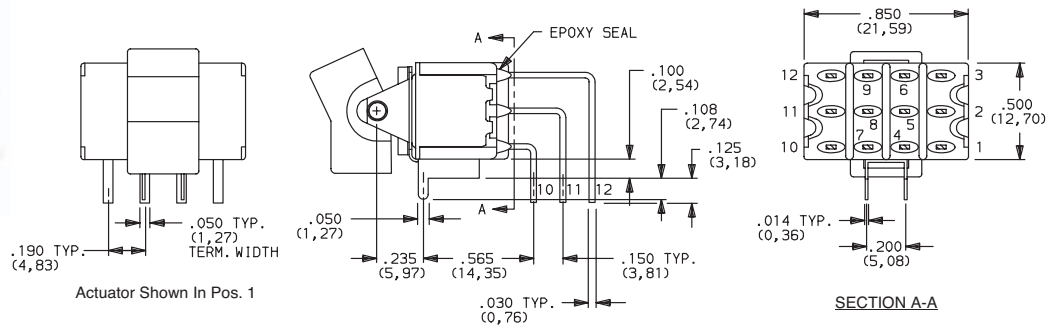
# 7000 Series Miniature Rocker & Lever Handle Switches

## TERMINATIONS

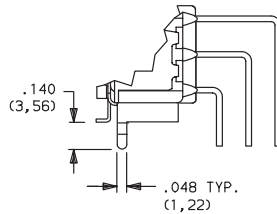
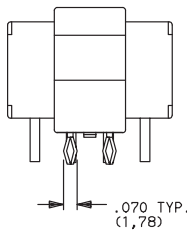
**AV2** VERTICAL RIGHT ANGLE, PC THRU-HOLE,  
.150" PITCH



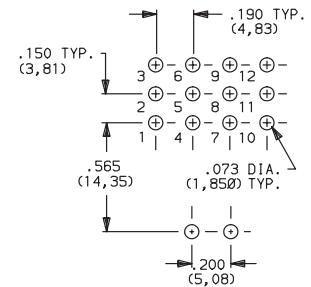
**7401J1AV2BE2**  
Vertical Actuation  
**4PDT**



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

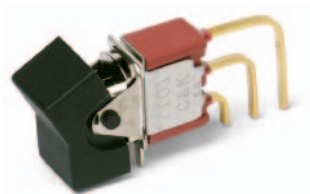


### PC MOUNTING

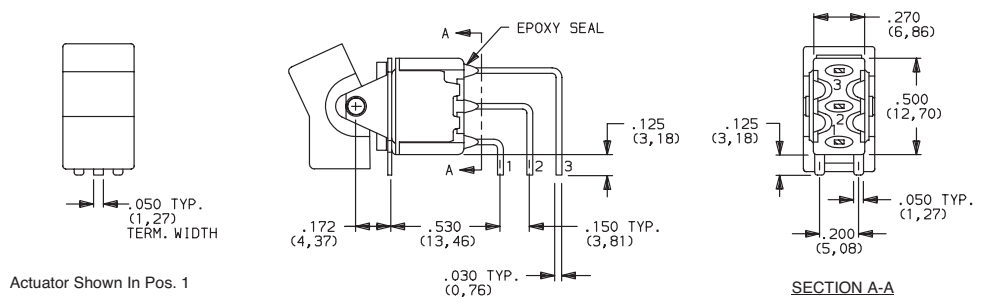


Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.

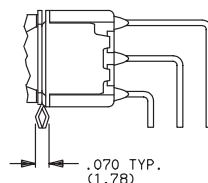
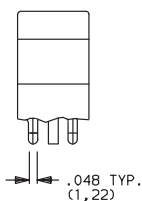
**V5** VERTICAL RIGHT ANGLE, PC THRU-HOLE,  
.150" PITCH



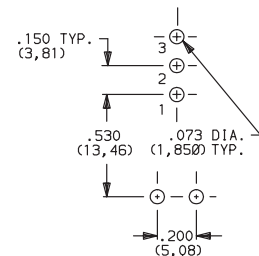
**7101J1V5BE2**  
Vertical Actuation  
**SPDT**



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



### PC MOUNTING



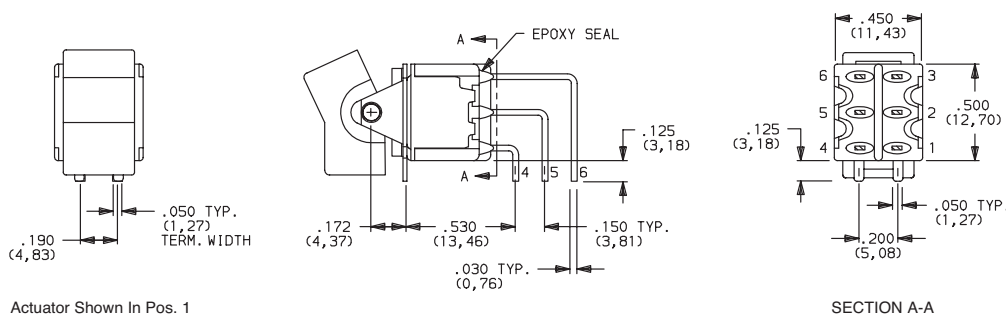
Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.



# 7000 Series Miniature Rocker & Lever Handle Switches

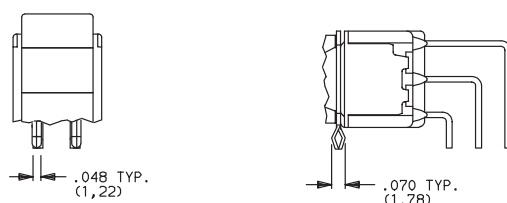
## TERMINATIONS

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

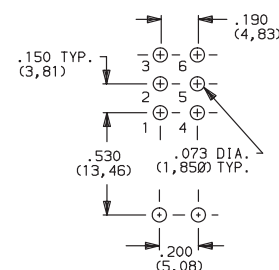


7201J1V5BE2  
Vertical Actuation  
DPDT

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



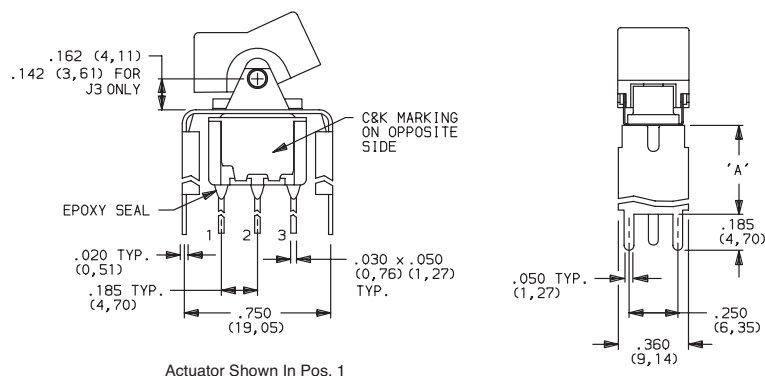
### PC MOUNTING



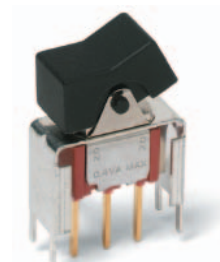
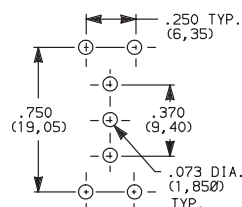
Not available with I seal option. Available actuators, see pages G-7 and G-13.  
Terminal bend radii and lead-in manufacturing option.

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

**V61** VERTICAL MOUNT, V-BRACKET, SNAP-IN



### PC MOUNTING



7101J1\_BE2  
SPDT

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

Not available with I seal option.  
Available actuators, see pages G-7 and G-13.



Dimensions are shown: Inches (mm)

Specifications and dimensions subject to change

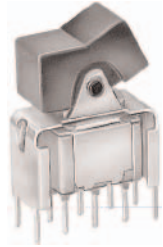
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# 7000 Series Miniature Rocker & Lever Handle Switches

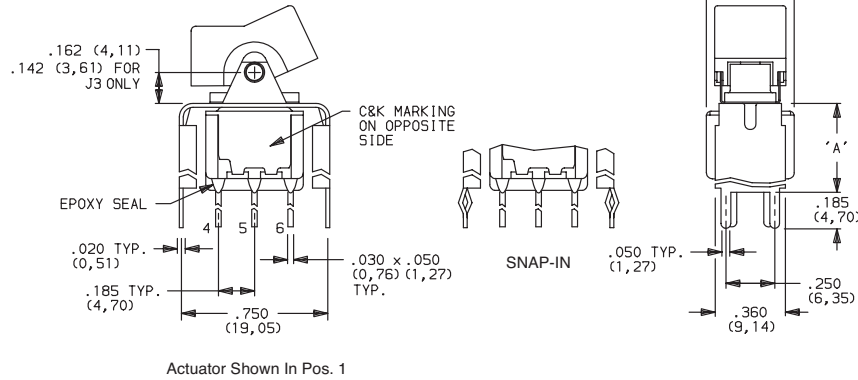
## TERMINATIONS

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

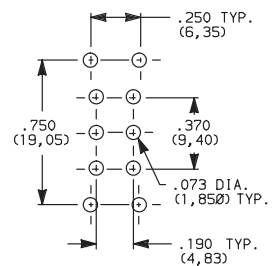
**V21, V61** VERTICAL MOUNT, V-BRACKET, SNAP-IN



7201J1\_BE2  
DPDT



### PC MOUNTING

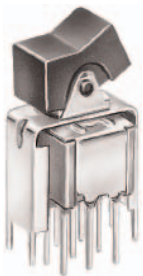


| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V6, V61</b> | .460 (11,68) |
| <b>V7</b>      | .630 (16,00) |
| <b>V8</b>      | .953 (24,21) |

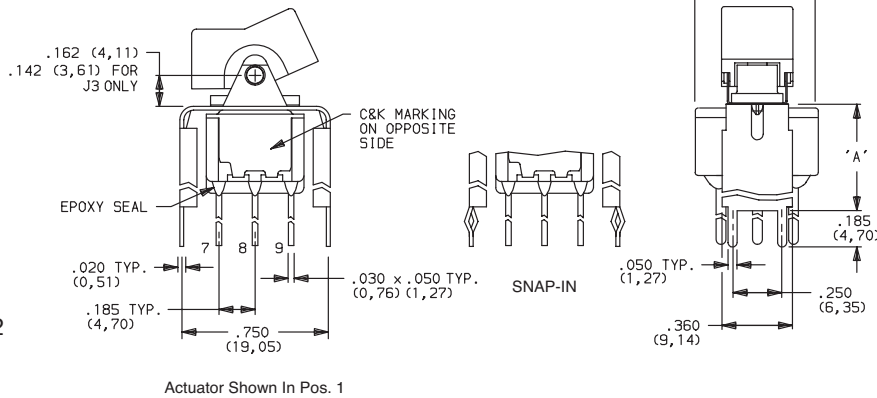
Not available with I seal option.  
Available actuators, see pages G-7 and G-13.

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

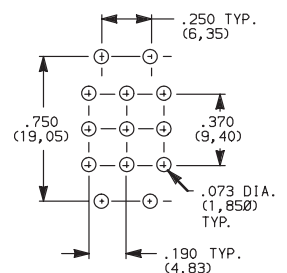
**V21** VERTICAL MOUNT, V-BRACKET, SNAP-IN



7301J1\_BE2  
3PDT



### PC MOUNTING



| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V7</b>      | .630 (16,00) |
| <b>V8</b>      | .953 (24,21) |

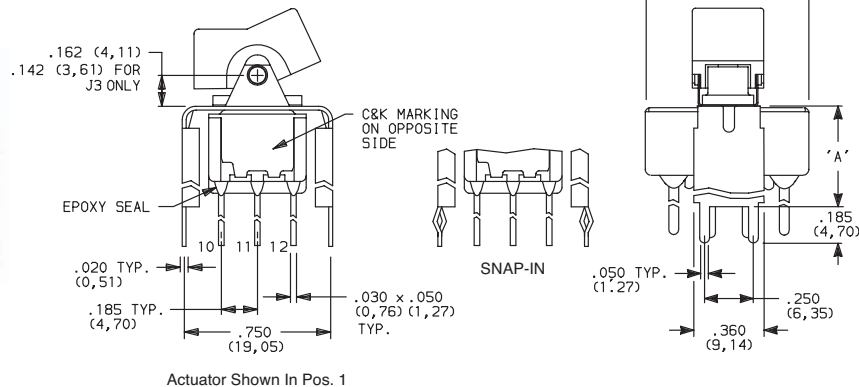
Not available with I seal option.  
Available actuators, see pages G-7 and G-13.

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

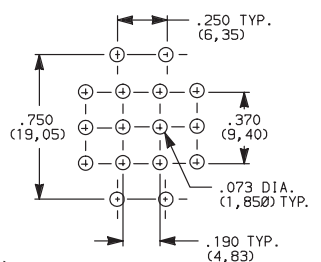
**V21** VERTICAL MOUNT, V-BRACKET, SNAP-IN



7401J1\_BE2  
4PDT



### PC MOUNTING



| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V7</b>      | .630 (16,00) |
| <b>V8</b>      | .953 (24,21) |

Not available with I seal option.  
Available actuators, see pages G-7 and G-13.



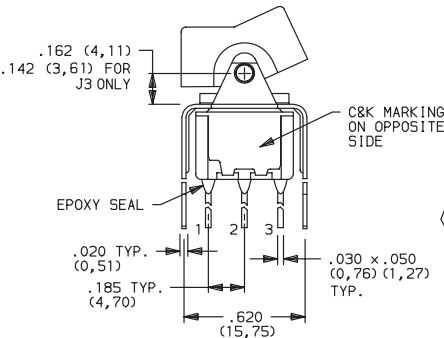
# 7000 Series

## Miniature Rocker & Lever Handle Switches

### TERMINATIONS

**V3, V4, V9** VERTICAL MOUNT, V-BRACKET

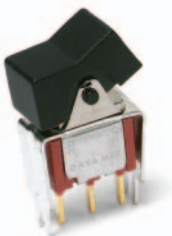
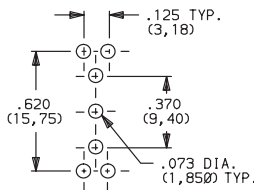
**V31** VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.  
Available actuators, see pages G-7 and G-13.

#### PC MOUNTING

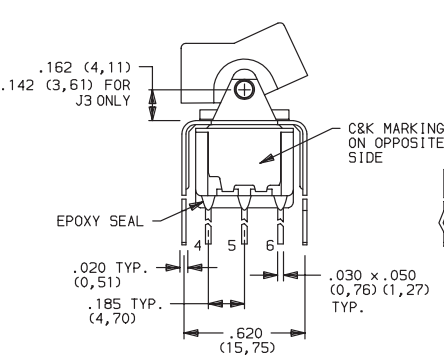


7101J1\_BE2  
SPDT

| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| V3, V31     | .460 (11,68)  |
| V4          | .630 (16,00)  |
| V9          | 1.150 (29,21) |

**V3, V4, V9** VERTICAL MOUNT, V-BRACKET

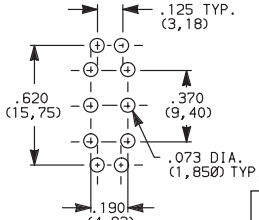
**V31** VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.  
Available actuators, see pages G-7 and G-13.

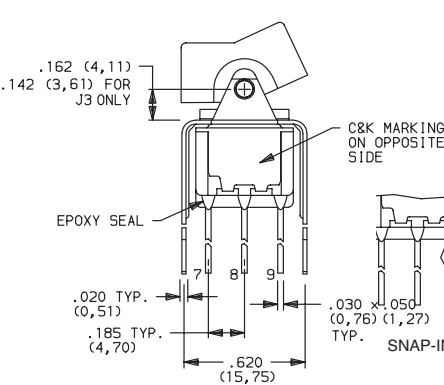
#### PC MOUNTING



7201J1\_BE2  
DPDT

| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| V3, V31     | .460 (11,68)  |
| V4          | .630 (16,00)  |
| V9          | 1.150 (29,21) |

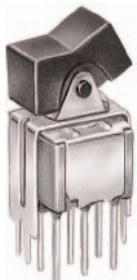
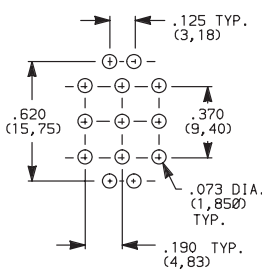
**V4, V9** VERTICAL MOUNT, V-BRACKET



Actuator Shown In Pos. 1

Not available with I seal option.  
Available actuators, see pages G-7 and G-13.

#### PC MOUNTING



7301J1\_BE2  
3PDT

| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| V4          | .630 (16,00)  |
| V9          | 1.150 (29,21) |

Rocker



G

**C&K**



Third Angle  
Projection

Dimensions are shown: Inches (mm)

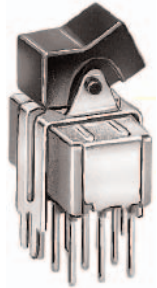
Specifications and dimensions subject to change

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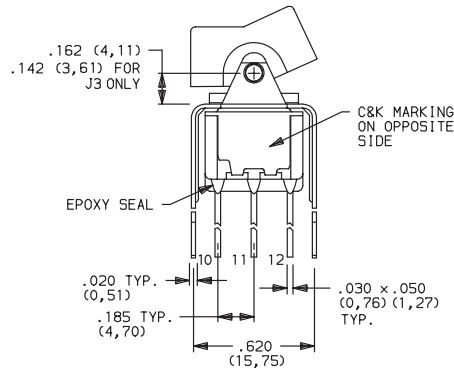
# 7000 Series Miniature Rocker & Lever Handle Switches

## TERMINATIONS

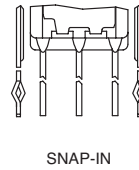
**V4, V9** VERTICAL MOUNT, V-BRACKET



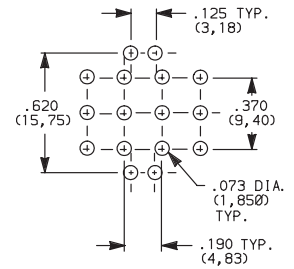
7401J1\_BE2  
4PDT



Actuator Shown In Pos. 1



### PC MOUNTING



| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| <b>V4</b>   | .630 (16,00)  |
| <b>V9</b>   | 1.150 (29,21) |

Not available with I seal option.  
Available actuators, see pages G-7 and G-13.

## CONTACT MATERIAL

| OPTION CODE | CONTACT MATERIAL                | TERMINAL PLATING       | RATINGS                           |                                                                                    |
|-------------|---------------------------------|------------------------|-----------------------------------|------------------------------------------------------------------------------------|
| <b>B</b>    | GOLD <sup>1</sup>               | GOLD <sup>1</sup>      | LOW LEVEL/<br>DRY CIRCUIT         | 0.4 VA MAX. @ 20 V AC OR DC MAX.                                                   |
| <b>P</b>    |                                 | MATTE-TIN <sup>6</sup> |                                   |                                                                                    |
| <b>Q</b>    | SILVER <sup>4,5</sup>           | SILVER <sup>5</sup>    | POWER                             | 5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC.                                   |
| <b>S</b>    |                                 | MATTE-TIN <sup>6</sup> |                                   |                                                                                    |
| <b>G</b>    | GOLD OVER SILVER <sup>2,3</sup> | GOLD <sup>3</sup>      | LOW LEVEL/DRY<br>CIRCUIT OR POWER | 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. |
| <b>R</b>    |                                 | MATTE-TIN <sup>6</sup> |                                   |                                                                                    |

\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

- CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
- END CONTACTS: Coin silver, with gold plate over nickel plate.
- CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- END CONTACTS: Coin silver, silver plated.
- CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.
- TERMINALS: Copper alloy, with matte-tin over nickel plate.

U11-U415 model numbers  with all options when ordered with G, Q, S & R contact material.

B contact material standard with all terminations except C, Z & Z3.

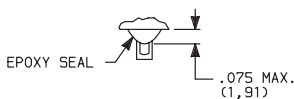
Q contact material standard with C, Z & Z3 terminations.

P, S & R, contact materials not available with Z & Z3 terminations.

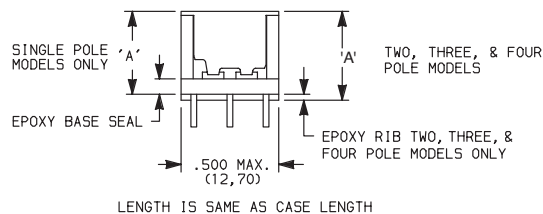
**NOTE:** Any models supplied with Q, B, G S, P & R contact material are RoHS compliant.

## SEAL

**E** EPOXY SEAL



**I** EPOXY POTTED BASE



Available with C, W through W5, Z & Z3 terminations.

| NO. POLES | DIM 'A'      |
|-----------|--------------|
| <b>SP</b> | .410 (10,41) |
| <b>DP</b> | .440 (11,18) |
| <b>3P</b> | .505 (12,83) |
| <b>4P</b> | .505 (12,83) |



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

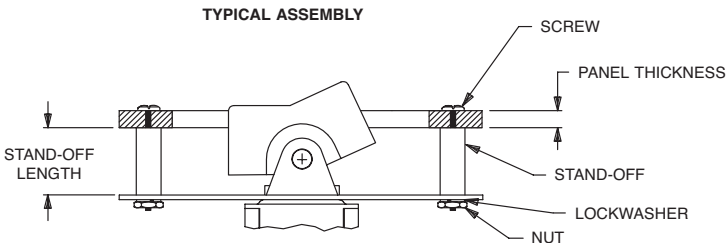


# 7000 Series

## Miniature Rocker & Lever Handle Switches

### 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.



#### 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.

#### J1, J11, J15 & J16 Actuators



PART NO.  
776A01000 WHITE  
776A02263 BLACK  
776A03000 RED

Material: Nylon  
Finish: Matte

#### J2, J21, J25 & J26 Actuators



PART NO.  
426D01000 WHITE  
426D02263 BLACK  
426D03000 RED

Material: Nylon  
Finish: Matte

#### J3 & J37 Actuators



PART NO.  
431D01000 WHITE  
431D02263 BLACK  
431D03000 RED

Material: Nylon  
Finish: Matte

#### J50, J51 & J52 Actuators



PART NO.  
775A01000 WHITE  
775A02263 BLACK  
775A03000 RED

Material: Nylon  
Finish: Matte

#### J60, J61 & J62 Actuators



PART NO.  
598101000 WHITE  
613802263 BLACK  
598103000 RED

Material: Nylon  
Finish: Matte

#### J8 Actuator



PART NO.  
488701000 WHITE  
488702263 BLACK  
488703000 RED

Material: Nylon  
Finish: Matte

Rocker



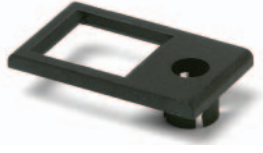
G

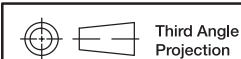
C&K

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

# 7000 Series Miniature Rocker & Lever Handle Switches

## AVAILABLE HARDWARE

|                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>J90 &amp; J91 Actuators</p>  <p>PART NO.<br/> <b>598001000</b> WHITE<br/> <b>598002263</b> BLACK<br/> <b>598003000</b> RED<br/> Material: Nylon<br/> Finish: Matte</p>                           | <p>J10 &amp; J19 Actuators</p>  <p>PART NO.<br/> <b>769501000</b> WHITE<br/> <b>769502263</b> BLACK<br/> <b>769503000</b> RED<br/> Material: Nylon<br/> Finish: Matte</p>            | <p>Fits Z3 Termination female connector</p>  <p>PART NO.<br/> <b>530100000</b><br/> Available in loose pieces.</p>                                                                         |
| <p>Frame for J11 &amp; J21 Actuators</p>  <p>PART NO.<br/> <b>764500746</b> BLACK ENAMEL<br/> <b>764500747</b> WHITE ENAMEL<br/> <b>764601106</b> RETAINING SPRING<br/> Material: Spring Steel</p> | <p>Frame for J16 &amp; J26 Actuators</p>  <p>PART NO.<br/> <b>459101000</b> WHITE<br/> <b>459102000</b> BLACK<br/> <b>459103000</b> RED<br/> Material: Nylon<br/> Finish: Matte</p> | <p>Frame for J51, J61 &amp; J91 Actuators</p>  <p>PART NO.<br/> <b>615601000</b> WHITE<br/> <b>615602263</b> BLACK<br/> <b>615603000</b> RED<br/> Material: Nylon<br/> Finish: Matte</p> |
| <p>Frame for J19 Actuator</p>  <p>PART NO.<br/> <b>781000746</b> BLACK ENAMEL<br/> <b>781000747</b> WHITE ENAMEL<br/> Material: Spring Steel</p>                                                  | <p>Frame for J37 Actuator</p>  <p>PART NO.<br/> <b>445400746</b> BLACK ENAMEL<br/> <b>445400747</b> WHITE ENAMEL<br/> Material: Spring Steel</p>                                  | <p>Frame for J52 &amp; J62 Actuators</p>  <p>PART NO.<br/> <b>613301000</b> WHITE<br/> <b>613302263</b> BLACK<br/> <b>613303000</b> RED<br/> Material: Nylon<br/> Finish: Matte</p>      |



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

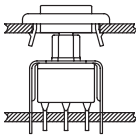
# 7000 Series

## Miniature Rocker & Lever Handle Switches

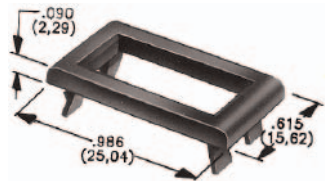
### AVAILABLE HARDWARE

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

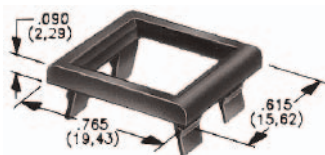


J1 & J2 Actuators



| .047" (1,19) PANEL THK. | .062" (1,57) PANEL THK. | .090" (2,29) PANEL THK. | .125" (3,18) PANEL THK. |
|-------------------------|-------------------------|-------------------------|-------------------------|
| PART NO.                | PART NO.                | PART NO.                | PART NO.                |
| 452902263               | 452702263               | 452802263               | 452602263 BLACK         |

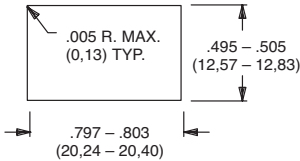
J50, J60 & J90 Actuators



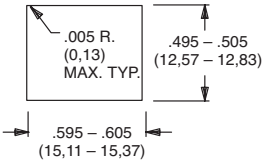
| .047" (1,19) PANEL THK. | .062" (1,57) PANEL THK. | .090" (2,29) PANEL THK. | .125" (3,18) PANEL THK. |
|-------------------------|-------------------------|-------------------------|-------------------------|
| PART NO.                | PART NO.                | PART NO.                | PART NO.                |
| 432502263               | 432602263               | 432702263               | 432802263 BLACK         |

### PANEL MOUNTING

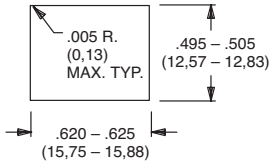
For part numbers  
4529xxxxx, 4527xxxxx,  
4528xxxxx, 4526xxxxx



For part numbers  
4325xxxxx, 4326xxxxx



For part numbers  
4327xxxxx, 4328xxxxx



Rocker



G

C&K



Third Angle  
Projection

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

www.ck-components.com

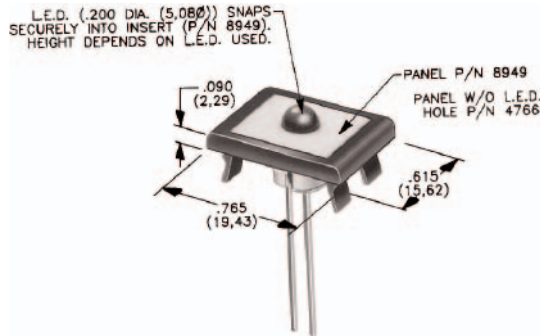
# 7000 Series Miniature Rocker & Lever Handle Switches

## 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

PART NO.  
**894902000**

BLANK PANEL INSERT  
WITHOUT HOLE FOR LED

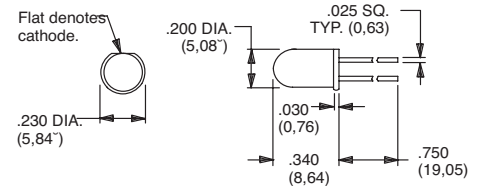
PART NO.  
**476602000** BLACK

**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.

