

# 7000 Series Miniature Toggle Switches

## Features/Benefits

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



## 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-16 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<sup>9</sup>  $\Omega$  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).

For materials see page G-4.

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

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

## 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 thru G-16. For additional options not shown in catalog, consult our Customer Service Center.

| Switch Function       | Actuator                                              | Bushing                         | Contact Material              | Seal                | Actuator Color/Finish | KXX Actuator Color/Finish | Bushing Finish                                        | Terminations                            | Wire Wrap                 |
|-----------------------|-------------------------------------------------------|---------------------------------|-------------------------------|---------------------|-----------------------|---------------------------|-------------------------------------------------------|-----------------------------------------|---------------------------|
| 7101 SP On-None-On    | M .200" high                                          | D .280 high, keyway             | B Gold                        | E Epoxy             | NONE Bright chrome    | NONE Natural aluminum     | NONE Nickel on all bushings (except D8, satin chrome) | A Right angle, PC thru-hole             | W .750" long, wire wrap   |
| 7103 SP On-Off-On     | P3 Flatted, anti-rotation, .450" high                 | H .296 high, flat               | P Gold, matte-tin             | I Epoxy potted base | 2 Black               | 2 Black anodized aluminum | 2 Black                                               | AV2 Vert. right angle, PC thru-hole     | W1 .964" long, wire wrap  |
| 7105 SP Mom.-Off-Mom. | S .420" high                                          | Y .350 high, keyway             | Q Silver                      |                     | 3 Red                 | 3 Red anodized aluminum   |                                                       | C PC Thru-hole                          | W3 .425" long, wire wrap  |
| 7107 SP On-Off-Mom.   | T .687" high, 15/32 bushing                           | NONE No bushing choice required | S Silver, matte-tin           |                     | S Satin chrome        | 7 Blue anodized aluminum  |                                                       | V3 .460 high, V-bracket                 | W4 1.062" long, wire wrap |
| 7108 SP On-None-Mom.  | K2 Locking lever, .704" high                          | CW Splashproof                  | G Gold over silver            |                     |                       |                           |                                                       | Z Solder lug                            | W5 1.305" long, wire wrap |
| 7109 SP None-On-Mom.  | K9 Locking lever, .704" high                          | D8 .280" high, flat             | R Gold over silver, matte-tin |                     |                       |                           |                                                       | A2 Right angle, PC thru-hole            | Z3 Quick connect          |
| 7201 DP On-None-On    | K12 Locking lever, .732" high                         | D9 .280" high, keyway           |                               |                     |                       |                           |                                                       | A3 Right angle, PC thru-hole            |                           |
| 7203 DP On-Off-On     | K19 Locking lever, .732" high                         | H3 .315" high, keyway           |                               |                     |                       |                           |                                                       | A4 Right angle, PC thru-hole            |                           |
| 7205 DP Mom.-Off-Mom. | L .840" high                                          | H4 8mm high, keyway             |                               |                     |                       |                           |                                                       | AW1 Right angle, extended, PC thru-hole |                           |
| 7207 DP On-Off-Mom.   | L1 .640" high                                         | Y1 .378" high, keyway           |                               |                     |                       |                           |                                                       | AW4 Right angle, extended, PC thru-hole |                           |
| 7208 DP On-None-Mom.  | L1P Anti-rotation, .640" high                         | Y3 8.9mm high, keyway           |                               |                     |                       |                           |                                                       | V2 .555" high, V-bracket                |                           |
| 7211 DP On-On-On      | L2 .550" high                                         | Y4 .378" high, flat             |                               |                     |                       |                           |                                                       | V4 .630" high, V-bracket                |                           |
| 7213 DP On-On-Mom.    | L2P Anti-rotation, .550" high                         | Y9 .350" high, keyway           |                               |                     |                       |                           |                                                       | V6 .460" high, V-bracket                |                           |
| 7215 DP Mom.-On-Mom.  | L3 Plastic .940" inch                                 |                                 |                               |                     |                       |                           |                                                       | V7 .630" high, V-bracket                |                           |
| 7301 3P On-None-On    | L40 Lever handle without cap                          |                                 |                               |                     |                       |                           |                                                       | V8 .953" high, V-bracket                |                           |
| 7303 3P On-Off-On     | L41 .531" high lever handle with cap                  |                                 |                               |                     |                       |                           |                                                       | V9 1.150" high, V-bracket               |                           |
| 7305 3P Mom.-Off-Mom. | L42 .838" high lever handle with cap                  |                                 |                               |                     |                       |                           |                                                       | V21 .555" high, snap-in V-bracket       |                           |
| 7308 3P On-None-Mom.  | L42 .838" high lever handle with cap                  |                                 |                               |                     |                       |                           |                                                       | V31 .460" high, snap-in V-bracket       |                           |
| 7401 4P On-None-On    | MP Anti-rotation, .200" high                          |                                 |                               |                     |                       |                           |                                                       | V41 .630" high, snap-in V-bracket       |                           |
| 7403 4P On-Off-On     | P1 Flatted, anti-rotation, .840" high                 |                                 |                               |                     |                       |                           |                                                       | V71 .630" high, snap-in V-bracket       |                           |
| 7405 4P Mom.-Off-Mom. | P4 Flatted, anti-rotation, .250" high                 |                                 |                               |                     |                       |                           |                                                       | V81 .953" high, snap-in V-bracket       |                           |
| 7408 4P On-None-Mom.  | SP Anti-rotation, .420" high                          |                                 |                               |                     |                       |                           |                                                       |                                         |                           |
| 7411 4P On-On-On      | T1 .487" high, 15/32 bushing                          |                                 |                               |                     |                       |                           |                                                       |                                         |                           |
| 7413 4P On-On-Mom.    | T1P Anti-rotation, .487" high, 15/32 bushing          |                                 |                               |                     |                       |                           |                                                       |                                         |                           |
| 7415 4P Mom.-On-Mom.  | T2P Flatted, anti-rotation, .610" high, 15/32 bushing |                                 |                               |                     |                       |                           |                                                       |                                         |                           |
|                       | TP Anti-rotation, .687" high, 15/32 bushing           |                                 |                               |                     |                       |                           |                                                       |                                         |                           |

**Note:** UL/CSA models available, see pages G-4 & G-5.



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



# 7000 Series Miniature Toggle Switches

## Materials

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

ACTUATOR: Brass, chrome plated.

BUSHING: Brass or zinc, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass or steel, 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-15 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 above for additional contact materials.

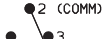
TERMINAL SEAL: Epoxy.

HARDWARE: Nut & Locking Ring: Brass, nickel plated.  
Lockwasher: Steel, nickel plated.

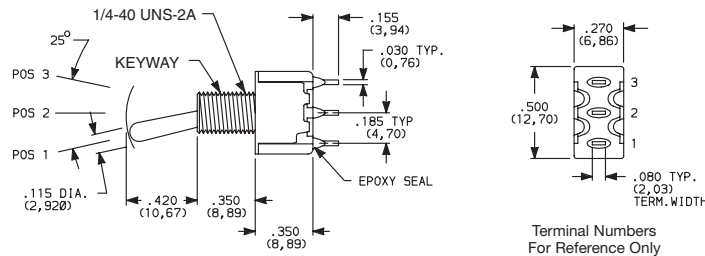
**NOTE:** Materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

## SWITCH FUNCTION

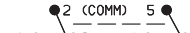


| NO. POLES | MODEL NO. | UL/CSA** MODEL NO. | SWITCH FUNCTION                                                                             |                                                                                             |                                                                                             | CONNECTED TERMINALS                                                                          |                                                                                               |                                                                                               | SCHEMATIC                                                                           |
|-----------|-----------|--------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|           |           |                    | POS. 1<br> | POS. 2<br> | POS. 3<br> | POS. 1<br> | POS. 2<br> | POS. 3<br> |                                                                                     |
| SP        | 7101      | U11                | ON                                                                                          | NONE                                                                                        | ON                                                                                          | 2-3                                                                                          | N/A                                                                                           | 2-1                                                                                           |  |
|           | 7103      | U13                | ON                                                                                          | OFF                                                                                         | ON                                                                                          | 2-3                                                                                          | OPEN                                                                                          | 2-1                                                                                           |                                                                                     |
|           | 7105      | U15                | MOM.                                                                                        | OFF                                                                                         | MOM.                                                                                        |                                                                                              |                                                                                               |                                                                                               |                                                                                     |
|           | 7107      | U17                | ON                                                                                          | OFF                                                                                         | MOM.                                                                                        | 2-3                                                                                          | N/A                                                                                           | 2-1                                                                                           |                                                                                     |
|           | 7108      | U18                | ON                                                                                          | NONE                                                                                        | MOM.                                                                                        |                                                                                              |                                                                                               |                                                                                               |                                                                                     |
|           | 7109      | U19                | NONE                                                                                        | ON                                                                                          | MOM.                                                                                        | N/A                                                                                          | 2-3                                                                                           | 2-1                                                                                           |                                                                                     |

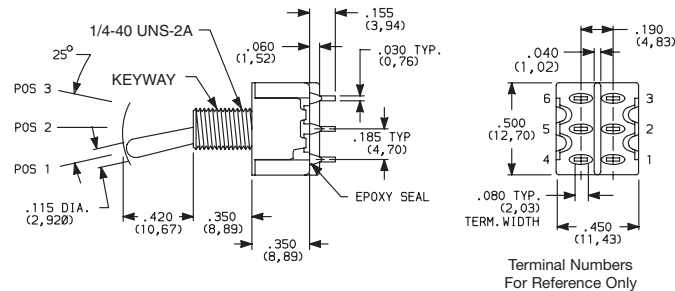
### SPDT



Part number shown: 7101SYZBE

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

### DPDT



Part number shown: 7201SYZQE

MOM. = Momentary

\*\* U11-U415 model nos. with all options when ordered with G, L, R, M, Q or S contact material.

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



Third Angle  
Projection

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

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Toggle

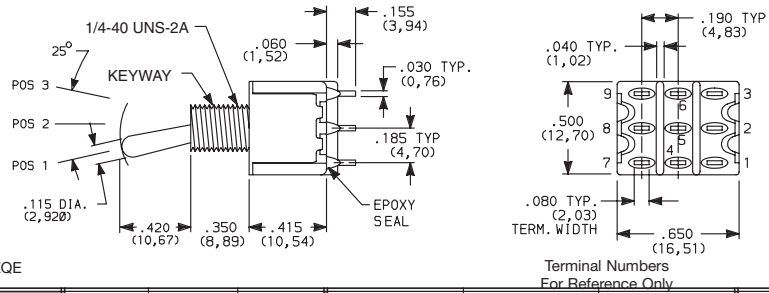


# 7000 Series Miniature Toggle Switches

## SWITCH FUNCTION

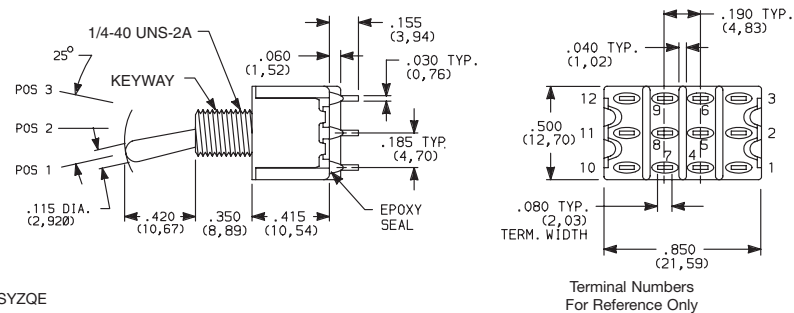
| NO.<br>POLES | MODEL NO. | UL/CSA**<br>MODEL<br>NO. | SWITCH FUNCTION                                                                   |                                                                                   |                                                                                   | CONNECTED TERMINALS                                                               |                                                                                   |                                                                                     | SCHEMATIC                                                                           |
|--------------|-----------|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|              |           |                          | POS. 1                                                                            | POS. 2                                                                            | POS. 3                                                                            | POS. 1                                                                            | POS. 2                                                                            | POS. 3                                                                              |                                                                                     |
|              |           |                          |  |  |  |  |  |  |                                                                                     |
| 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                                                                                | 2-3,5-6,8-9                                                                       | OPEN                                                                              | 2-1,5-4,8-7                                                                         |                                                                                     |
|              | 7305      | U35                      | MOM.                                                                              | OFF                                                                               | MOM.                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|              | 7307      | U37                      | ON                                                                                | OFF                                                                               | MOM.                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|              | 7308      | U38                      | ON                                                                                | NONE                                                                              | MOM.                                                                              | 2-3,5-6,8-9                                                                       | N/A                                                                               | 2-1,5-4,8-7                                                                         |                                                                                     |

### 3PDT



|    |       |       |      |      |      |                   |                   |                   |                                                                                               |
|----|-------|-------|------|------|------|-------------------|-------------------|-------------------|-----------------------------------------------------------------------------------------------|
| 4P | 7401  | U41   | ON   | NONE | ON   | 2-3,5-6,8-9,11-12 | N/A               | 2-1,5-4,8-7,11-10 | <br>4PDT |
|    | 7403  | U43   | ON   | OFF  | ON   | 2-3,5-6,8-9,11-12 | OPEN              | 2-1,5-4,8-7,11-10 |                                                                                               |
|    | 7405  | U45   | MOM. | OFF  | MOM. |                   |                   |                   |                                                                                               |
|    | 7408  | U48   | ON   | NONE | MOM. | 2-3,5-6,8-9,11-12 | N/A               | 2-1,5-4,8-7,11-10 |                                                                                               |
|    | 7411* | U411* | ON   | ON   | ON   | 2-3,5-6,8-9,11-12 | 2-3,5-4,8-9,11-10 | 2-1,5-4,8-7,11-10 |                                                                                               |
|    | 7413* | U413* | ON   | ON   | MOM. |                   |                   |                   |                                                                                               |
|    | 7415* | U415* | MOM. | ON   | MOM. |                   |                   |                   |                                                                                               |

### 4PDT



MOM. = Momentary

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

\*\* U11-U415 model nos.

all options when ordered with G, L, M, Q, R or S contact material.

**C&K**

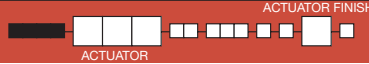


Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

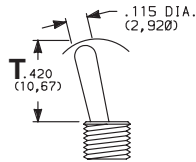


# 7000 Series Miniature Toggle Switches

## ACTUATOR

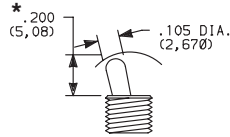


**S** .420" HIGH <sup>1</sup>  
**SP** ANTIROTATION, .420" HIGH <sup>2,3</sup>



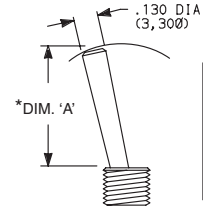
S actuator standard when ordered with C, W-W5, Z & Z3 terminations.  
Caps are available separately, see page G-16.

**M** .200" HIGH <sup>1</sup>  
**MP** ANTIROTATION, .200" HIGH <sup>2,3</sup>



M actuator standard when ordered with all terminations except C, W-W5, Z & Z3.  
Caps are available separately, see page G-16.

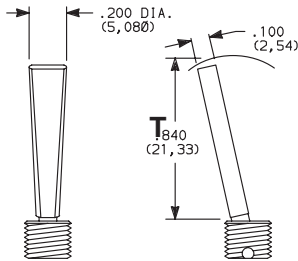
**L, L1, L2** .840", .640", .550" HIGH <sup>1</sup>  
**L1P, L2P** ANTIROTATION, .840", .640", .550" HIGH <sup>2,3</sup>



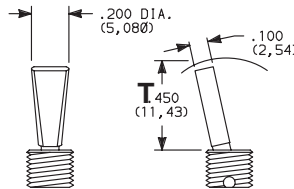
| OPTION CODE | DIM 'A'      |
|-------------|--------------|
| L           | .840 (21,34) |
| L1, L1P     | .640 (16,26) |
| L2, L2P     | .550 (13,97) |

Caps are available separately, see page G-16.

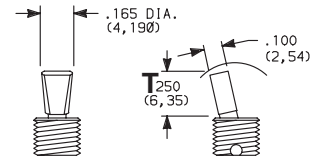
**P1** FLATTED WITH ANTIROTATION, .840" HIGH <sup>2,3</sup>



**P3** FLATTED WITH ANTIROTATION, .450" HIGH <sup>2,3</sup>

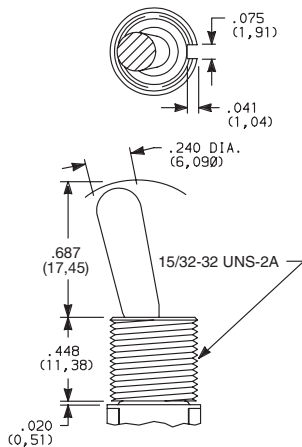


**P4** FLATTED WITH ANTIROTATION, .250" HIGH <sup>2,3</sup>

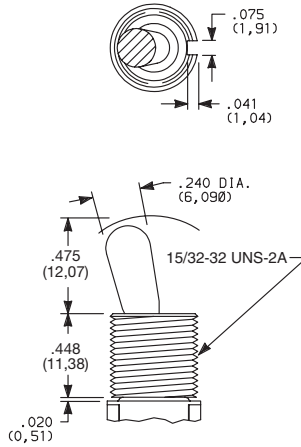


Dress nut part number 709901201 supplied standard with threaded bushing. (Part number 709903201 with metric threaded bushings.)

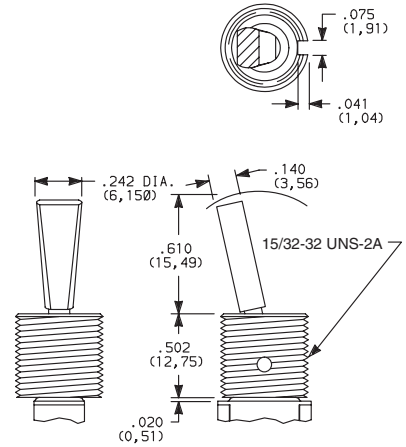
**T** .675 (17,15) HIGH <sup>1,2</sup>  
**TP** ANTIROTATION, .675 (17,15) HIGH, 15/32 BUSHING <sup>1,2,3</sup>



**T1** .475 (12,07) HIGH <sup>1,2</sup>  
**T1P** ANTIROTATION, .475 (12,07) HIGH, 15/32 BUSHING <sup>1,2,3</sup>



**T2P** FLATTED, ANTIROTATION, .610" HIGH, 15/32 BUSHING <sup>1,2,3</sup>



Bushing option code not required unless CW splashproof bushing ordered. TP & T1P actuators not available with CW splashproof bushing. All TXX actuators not available on single pole models with A-A4, AW1-AW4 terminations.

Bushing option code not required. T2P actuator not available with CW splashproof bushing or single pole models with A-A4, AW1-AW4 terminations.

- <sup>1</sup> L, L1, L2, M, S & TXX actuators not available with Y1 bushing.  
<sup>2</sup> L1P, L2P, MP, P1, P3, P4, SP & TXX actuators not available with D8 & H4 bushing.  
<sup>3</sup> Antirotation: Provides anti-'push-in' feature on actuator.  
\* Add .070 (1,78) for D, D8 & D9 bushings, subtract .020 (0,51) for H3 bushing.

| OPTION CODE | ACTUATOR FINISH                          |
|-------------|------------------------------------------|
| NONE        | BRIGHT CHROME-With Nickel Plated Bushing |
| 2           | BLACK                                    |
| S           | SATIN CHROME                             |

**NOTE:** Black hardware is supplied when either black actuators or bushings are specified. For additional hardware, see Section O.



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



Toggle



# 7000 Series Miniature Toggle Switches

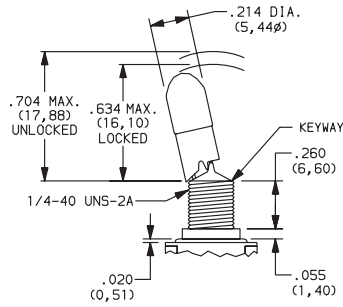
## ACTUATOR

ACTUATOR FINISH/COLOR

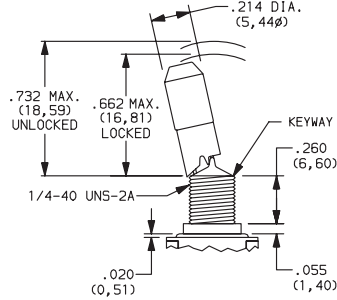
ACTUATOR

**K2** LOCKING LEVER, .704" HIGH  
(threaded)  
**K9** LOCKING LEVER, .704" HIGH  
(unthreaded)

**K12** LOCKING LEVER, .732" HIGH  
(threaded)  
**K19** LOCKING LEVER, .732" HIGH  
(unthreaded)



Replaces K, K8



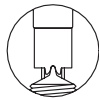
Replaces K1, K18

| OPTION CODE | ACTUATOR CAP FINISH                         |
|-------------|---------------------------------------------|
| <b>NONE</b> | NATURAL ALUMINUM—With Nickle Plated Bushing |
| <b>2</b>    | BLACK ANODIZED ALUMINUM                     |
| <b>3</b>    | RED ANODIZED ALUMINUM                       |
| <b>7</b>    | BLUE ANODIZED ALUMINUM                      |

## Locking Positions



-01 Models  
2 Position lock



-03 & -11 Models  
3 Position lock



-05, -09 & -15 Models  
1 Position lock



-07 & -13 Models  
2 Position lock



-08 Models  
1 Position lock

**NOTE:** To prevent accidental actuation, toggle must be lifted before being actuated. When released, toggle will lock in place. Overtightening mounting nut may cause actuator to bind.

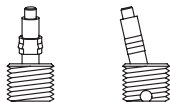
Locking levers supplied with bushing shown.

Bushing option code not required unless CW splashproof bushing ordered.

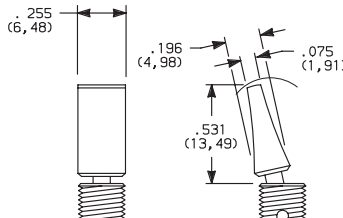
**L40** LEVER HANDLE WITHOUT CAP

**L41** PLASTIC LEVER HANDLE WITH ANTIROTATION AND CAP, P/N 4810

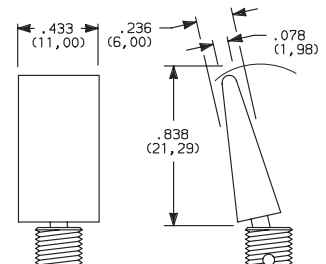
**L42** PLASTIC LEVER HANDLE WITH ANTIROTATION AND CAP, P/N 4811



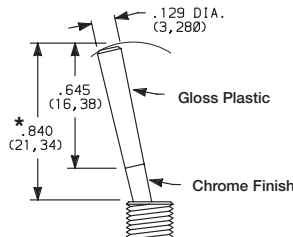
No color choice required



Finish: Matte (L41 & L42).



**L3** PLASTIC .940" HIGH



| OPTION CODE | PLASTIC ACTUATOR COLORS        |
|-------------|--------------------------------|
| <b>NONE</b> | No Actuator Color (L40 option) |
| <b>2</b>    | BLACK                          |
| <b>3</b>    | RED                            |

\* Add .070 (1,78) for D, D8 & D9 bushings, subtract .020 (0,51) for H3 bushing.

**NOTE:** Lever handle for L41 & L42 actuators supplied, but not installed. For interchangeability, order L40 actuator option and lever handles separately, see page G-16. L4X actuators not available with H4, Y1, Y4 bushings. Antirotation: Provides anti-'push-in' feature on actuator.



Third Angle  
Projection

**C&K**

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



Toggle

# 7000 Series Miniature Toggle Switches

## BUSHING

BUSHING FINISH

BUSHING

**Y** .350" HIGH, THREADED, KEYWAY

**Y9** .350" HIGH, UNTHREADED, KEYWAY

**NONE**

NO BUSHING

**D** .280" HIGH, THREADED, KEYWAY

**D8** .280" HIGH, UNTHREADED, FLAT<sup>3</sup>

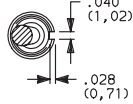
**D9** .280" HIGH, UNTHREADED, KEYWAY

**H**

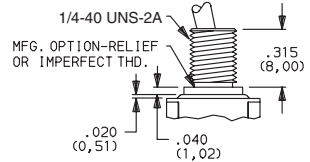
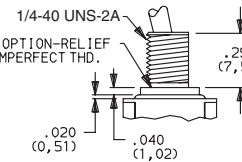
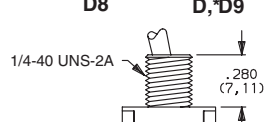
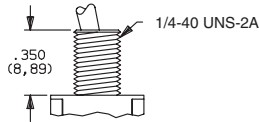
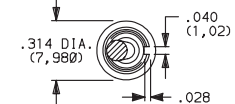
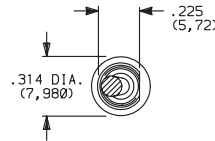
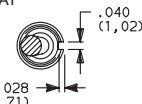
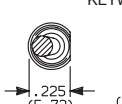
.296" HIGH, FLAT THREADED, HIGH TORQUE 1,2

**H3**

.315" HIGH, KEYWAY THREADED, HIGH TORQUE 1,2



No bushing choice required with KXX, TXX actuators. (exception: Specify CW if splashproof bushing desired).



Y bushing standard with C, W-W5, Z or Z3 terminations.

D9 bushing standard with all terminations except C, W-W5, Z or Z3. Add .070 (1,78) to all actuators lengths with D, D8 & D9 bushings.

Subtract .020 (0,51) from all actuator lengths for H3 bushing.

**H4** 8mm HIGH, KEYWAY, THREADED, METRIC HIGH TORQUE 1,2,3

**Y1**

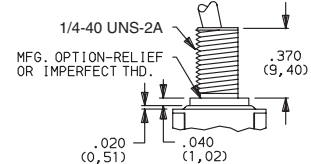
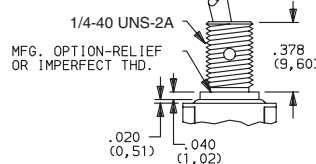
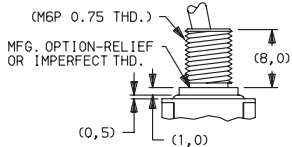
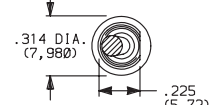
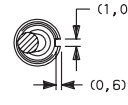
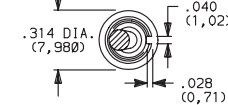
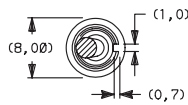
.378" HIGH, KEYWAY, THREADED, HIGH TORQUE 1,2,4

**Y3**

8.9mm HIGH, KEYWAY, THREADED, METRIC

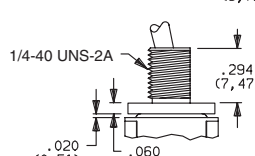
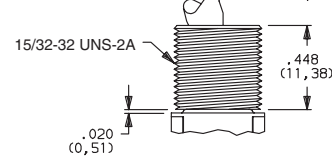
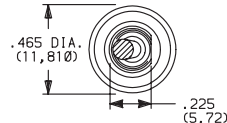
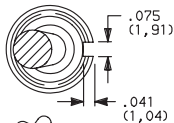
**Y4**

.378" HIGH, FLAT, THREADED, HIGH TORQUE 1,2,5



**CW** THREADED, SPLASHPROOF 1,2  
For T & T1 actuators.

For actuators other than T & T1.



IP67 Degree of protection, totally protected against dust, full-scale voltage protection, temporary immersion. Internal actuator seal standard. External bushing seal washer available separately, order from: APM Hexseal Englewood, N. J. Part Number: 60225

IP67 Degree of protection, totally protected against dust, full-scale voltage protection, temporary immersion. Internal actuator seal and external bushing seal washer standard.

| OPTION CODE | BUSHING FINISH                                   |
|-------------|--------------------------------------------------|
| <b>NONE</b> | NICKEL on all bushings except 'D8' satin chrome. |
| <b>2</b>    | BLACK                                            |

1 Will withstand 12 in.-lbs. of torque with no distortion.

2 CW, H, H3, H4, Y1 & Y4 bushings not available on single pole models with A4 terminations.

3 D8 & H4 bushings available only with L, L1, L2, M & S actuators.

4 Y1 bushing available only with LXP, MP, PX & SP actuators.

5 Y4 bushing not available with L4X actuators.

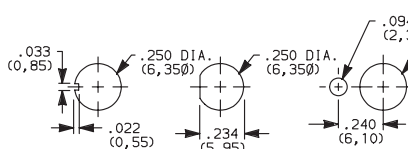
**NOTE:** Two mounting nuts, locking ring and lockwasher supplied standard with threaded bushings. Black hardware is supplied when either black bushings or actuators are specified. Optional mounting nut and locking ring styles and finishes available, see Section O.

## PANEL MOUNTING

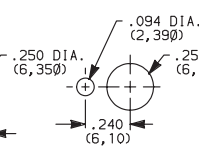
1/4 INCH BUSHING

METRIC BUSHING

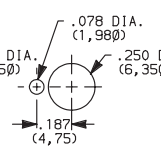
15/32 INCH BUSHING



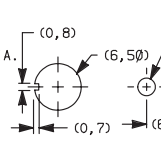
Without locking ring.



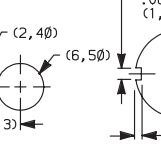
With standard locking ring.



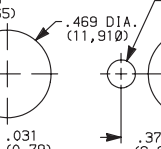
With small locking ring.



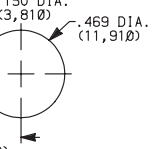
Without locking ring.



With locking ring.



Without locking ring.



With standard locking ring.



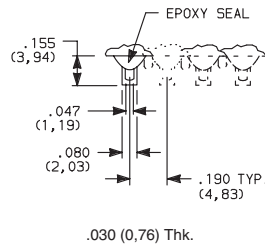
Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change

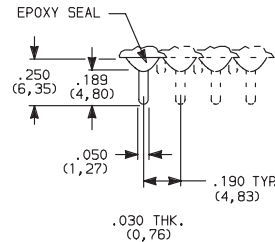
# 7000 Series Miniature Toggle Switches

## TERMINATIONS

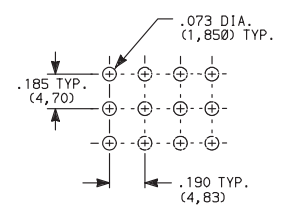
### Z SOLDER LUG



### C PC THRU-HOLE



#### PC MOUNTING

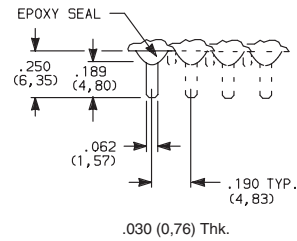


### SPDT thru 4PDT

Not available with P, R or S contact materials.

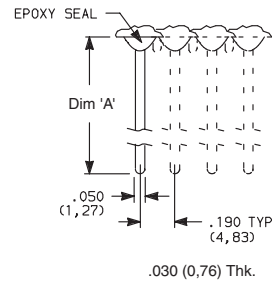
### SPDT thru 4PDT

### Z3 QUICK CONNECT



Not available with P, R or S contact materials.  
Mating quick connector available, order part number 530100000, page G-16.

### W, W1, W3, W4, W5 WIRE WRAP

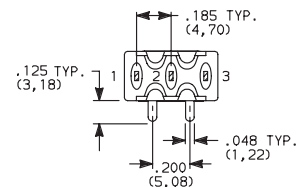
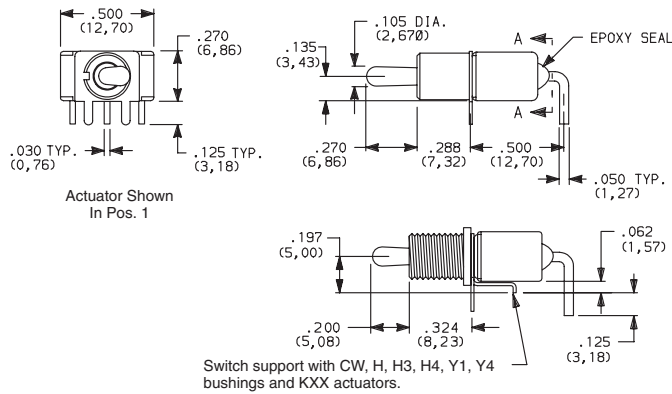


| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| <b>W</b>    | .750 (19,05)  |
| <b>W1</b>   | .964 (24,48)  |
| <b>W3</b>   | .425 (10,80)  |
| <b>W4</b>   | 1.062 (26,97) |
| <b>W5</b>   | 1.305 (33,15) |

### SPDT thru 4PDT

### SPDT thru 4PDT

### A RIGHT ANGLE, PC THRU-HOLE



#### SECTION A-A

Terminal Nos.  
For Reference Only

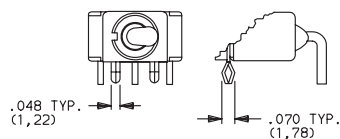


7101MD9ABE  
Horizontal Actuation  
SPDT

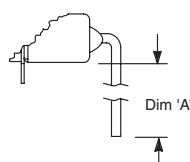
Switch support with CW, H, H3, H4, Y1, Y4 bushings and KXX actuators.

Part No. Shown: 7101MHABE

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

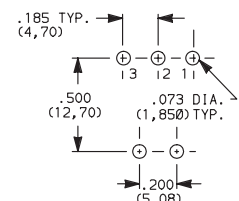


### AW1, AW4 RIGHT ANGLE, EXTENDED, PC THRU-HOLE



| OPTION CODE | DIM 'A'    |
|-------------|------------|
| <b>AW1</b>  | .72 (18,3) |
| <b>AW4</b>  | .83 (21,1) |

#### PC MOUNTING



Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.



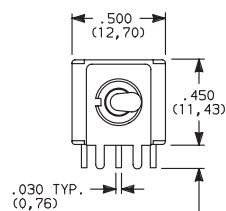
# 7000 Series Miniature Toggle Switches

## TERMINATIONS

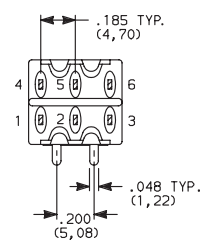
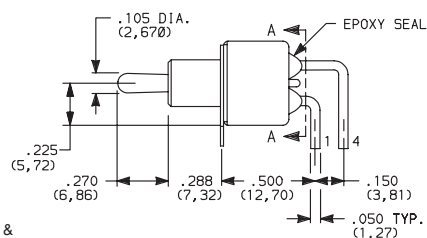
### A RIGHT ANGLE, PC THRU-HOLE



**7201MD9ABE**  
Horizontal Actuation  
**DPDT**



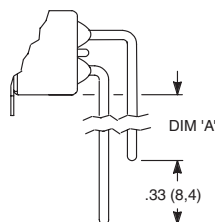
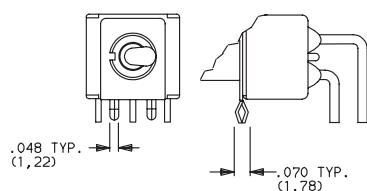
Actuator Shown  
In Pos. 1



**SECTION A-A**

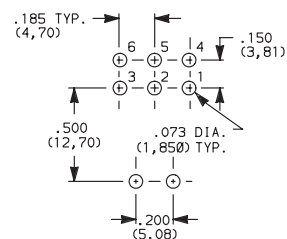
### A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE

### AW1, AW4 RIGHT ANGLE, EXTENDED, PC THRU-HOLE



| OPTION CODE | DIM 'A'    |
|-------------|------------|
| <b>AW1</b>  | .40 (10,2) |
| <b>AW4</b>  | .50 (12,7) |

### PC MOUNTING

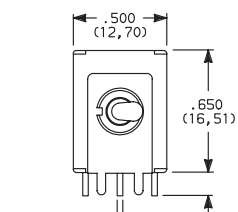


Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.

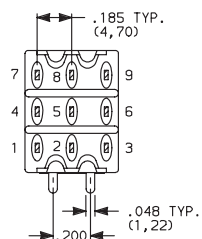
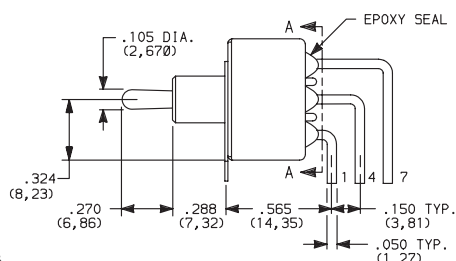
### A RIGHT ANGLE, PC THRU-HOLE



**7301MD9ABE**  
Horizontal Actuation  
**3PDT**

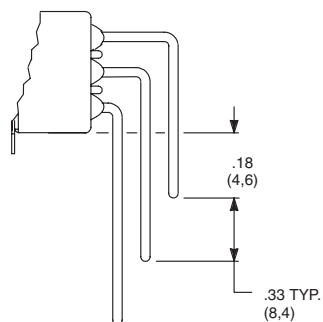


Actuator Shown  
In Pos. 1

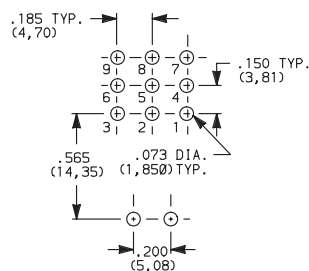


**SECTION A-A**

### AW4 RIGHT ANGLE, EXTENDED, PC THRU-HOLE



### PC MOUNTING



Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.



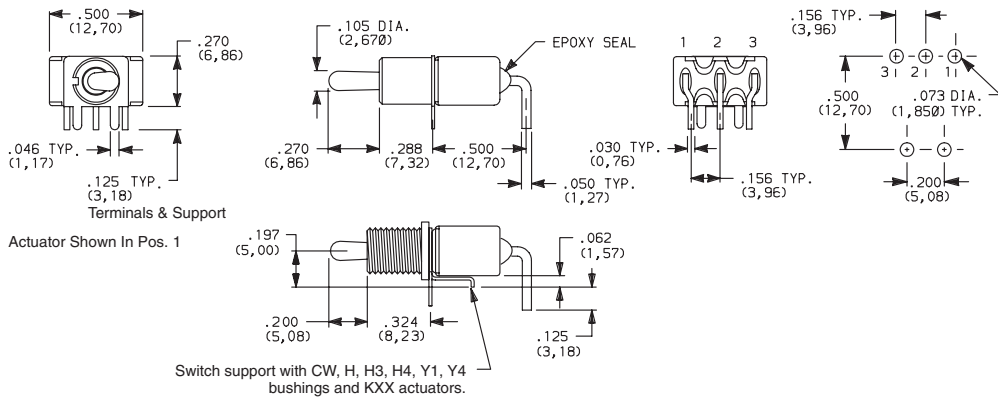
Third Angle  
Projection

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

# 7000 Series Miniature Toggle Switches

## TERMINATIONS

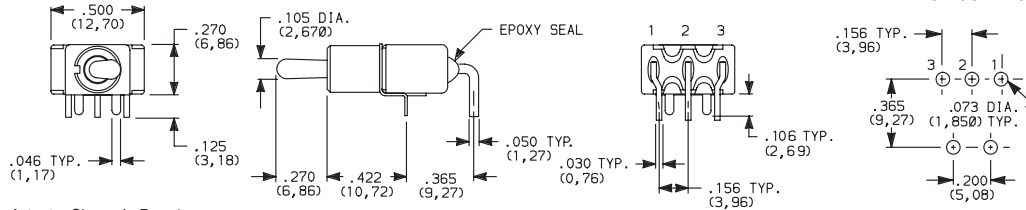
### A2 RIGHT ANGLE, PC THRU-HOLE, .156" PITCH



7101MHA2BE  
Horizontal Actuation  
SPDT

Not available with TXX actuators and I seal.  
Terminal bend radii and lead-in manufacturing option. Part No. Shown: 7101MHA2BE

### A4 RIGHT ANGLE, PC THRU-HOLE .156" PITCH

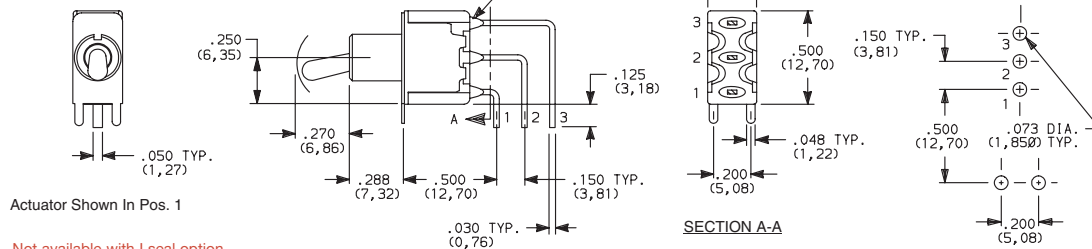


7101MD9A4BE  
Horizontal Actuation  
SPDT

Not available with KXX & TXX actuators, CW, H, H3, H4, Y1 & Y4 bushings, and I seal. Terminal bend radii and lead-in manufacturing option.

**NOTE:** The A4 option is available with any contact material and can be UL recognized and CSA certified. The PC pattern must clear switch support legs.

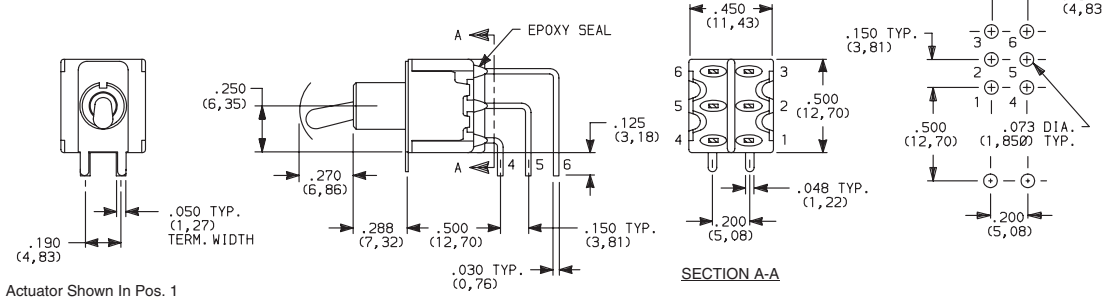
### AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



7101MD9AV2BE  
Horizontal Actuation  
SPDT

Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.

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



7201MD9AV2BE  
Vertical Actuation  
DPDT

Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.



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

**C&K**

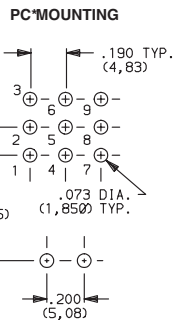
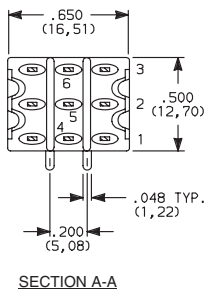
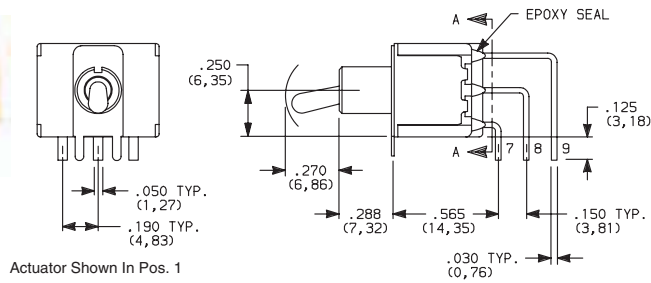
# 7000 Series Miniature Toggle Switches

## TERMINATIONS

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



**7301MD9AV2BE**  
Vertical Actuation  
**3PDT**

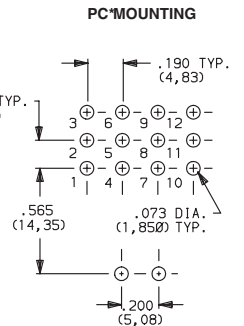
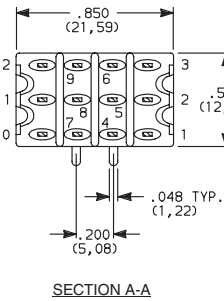
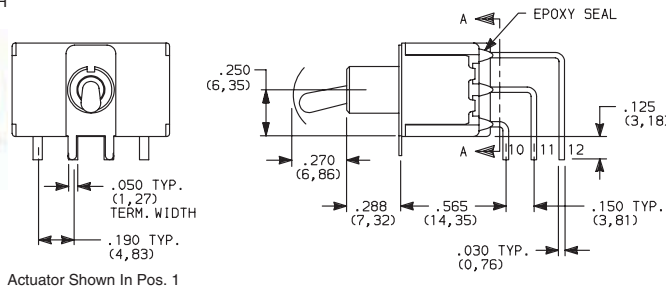


Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.

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



**7401MD9AV2BE**  
Vertical Actuation  
**4PDT**



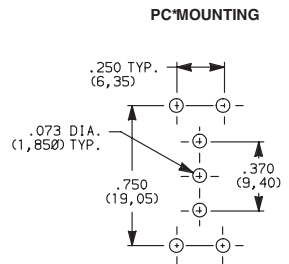
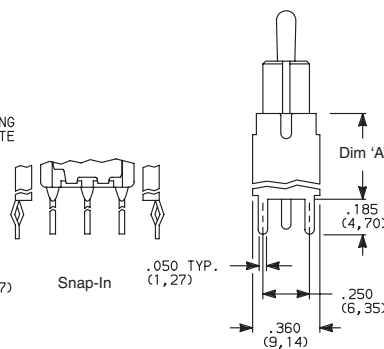
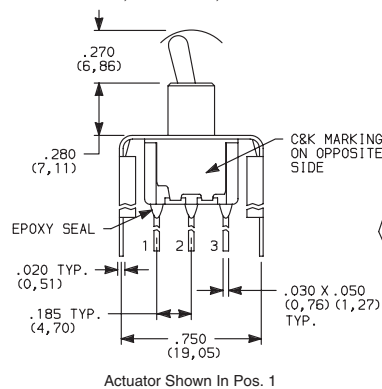
Not available with I seal option.  
Terminal bend radii and lead-in manufacturing option.

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

**V21, V71, V81** VERTICAL MOUNT, V-BRACKET, SNAP-IN



**7101MD9\_BE**  
**SPDT**



| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V6</b>      | .460 (11,68) |
| <b>V7, V71</b> | .630 (16,00) |
| <b>V8, V81</b> | .953 (24,21) |

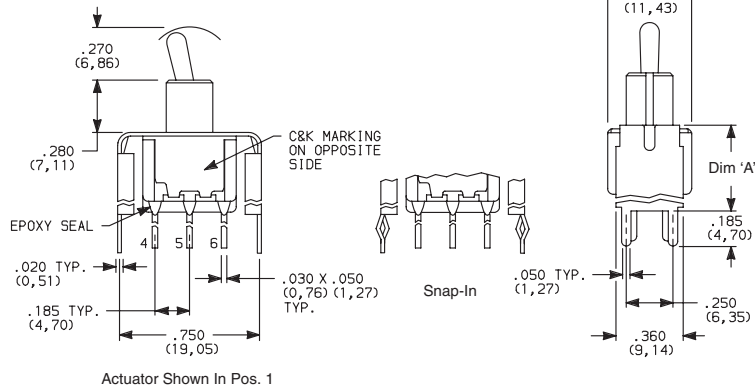
Not available with I seal option.

# 7000 Series Miniature Toggle Switches

## TERMINATIONS

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

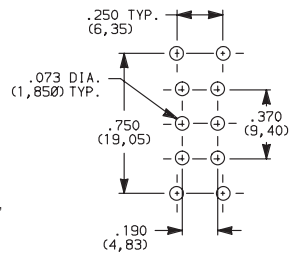
**V21, V61, V71, V81** VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.

### PC MOUNTING



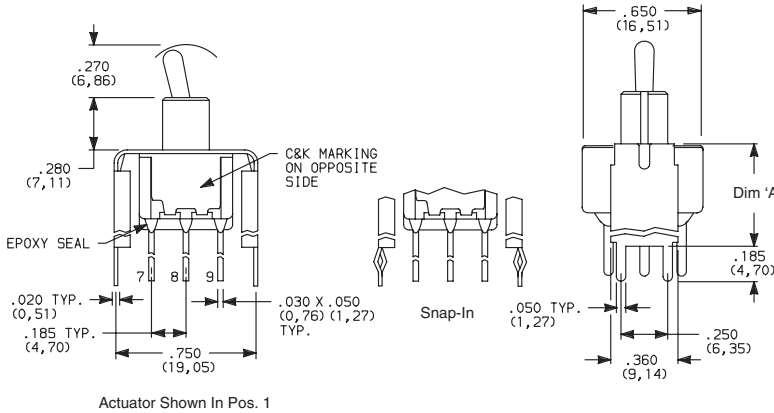
| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V6, V61</b> | .460 (11,68) |
| <b>V7, V71</b> | .630 (16,00) |
| <b>V8, V81</b> | .953 (24,21) |



7201MD9\_BE  
DPDT

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

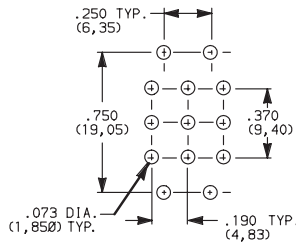
**V21, V71, V81** VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.

### PC MOUNTING



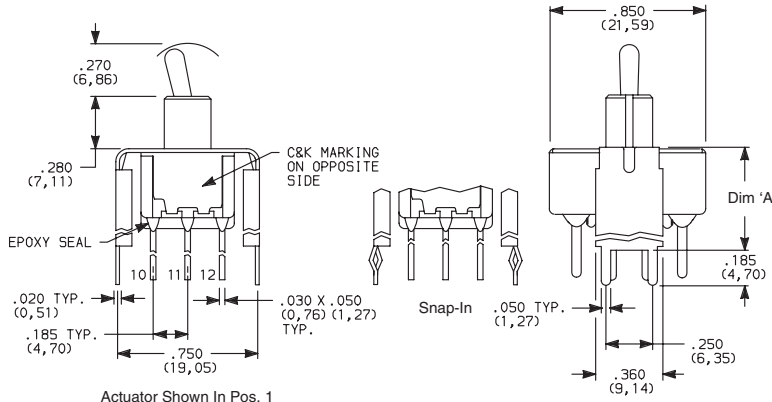
| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V7, V71</b> | .630 (16,00) |
| <b>V8, V81</b> | .953 (24,21) |



7301MD9\_BE  
3PDT

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

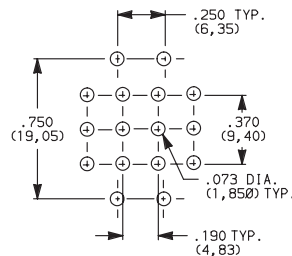
**V21, V71, V81** VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.

### PC MOUNTING



| OPTION CODE    | DIM 'A'      |
|----------------|--------------|
| <b>V2, V21</b> | .555 (14,10) |
| <b>V7, V71</b> | .630 (16,00) |
| <b>V8, V81</b> | .953 (24,21) |



7401MD9\_BE  
4PDT



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

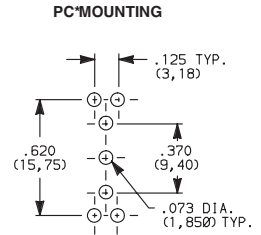
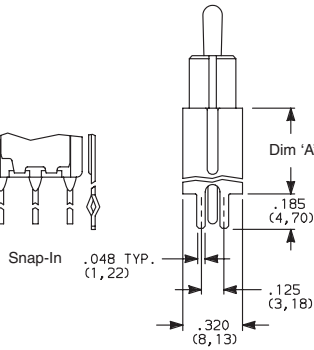
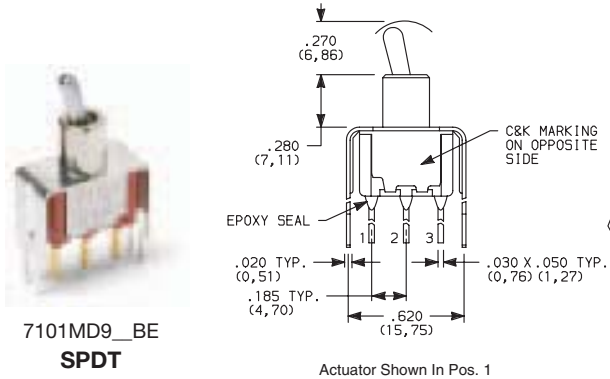


Toggle

## 7000 Series Miniature Toggle Switches

VERTICAL MOUNT, V-BRACKET

VERTICAL MOUNT, V-BRACKET, SNAP-IN

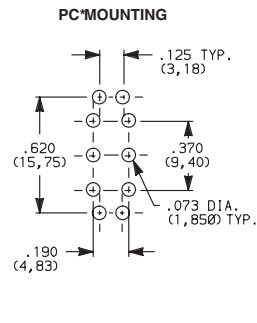
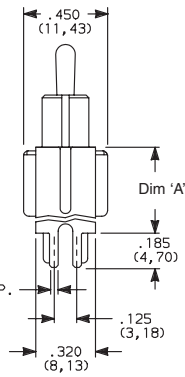
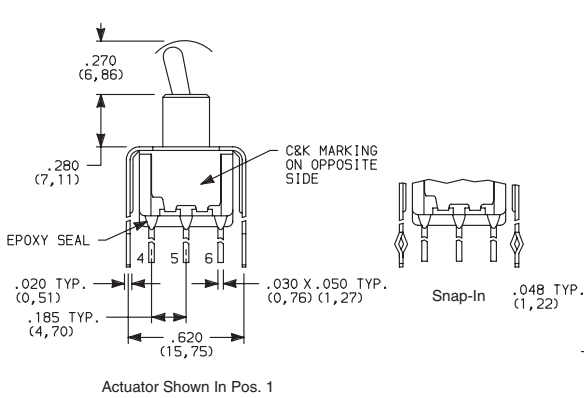


| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| V3, V31     | .460 (11,68)  |
| V4, V41     | .630 (16,00)  |
| V9          | 1.150 (29,21) |

Not available with I seal option.

VERTICAL MOUNT, V-BRACKET

VERTICAL MOUNT, V-BRACKET, SNAP-IN



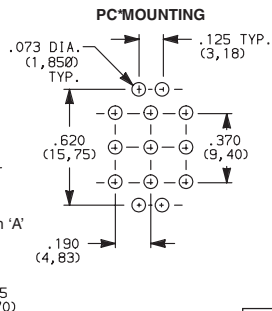
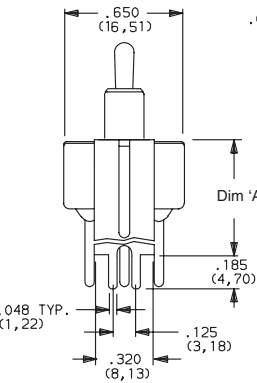
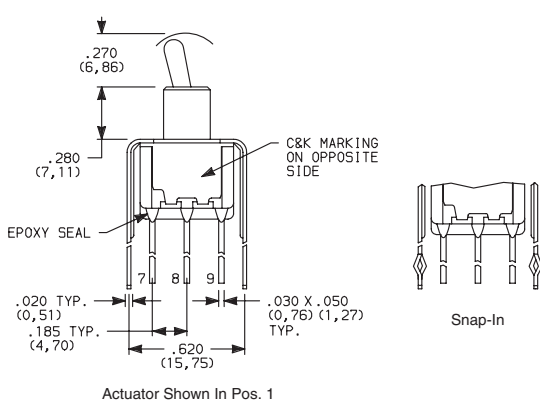
7201MD9\_\_BE  
DPDT

| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| V3, V31     | .460 (11,68)  |
| V4, V41     | .630 (16,00)  |
| V9          | 1.150 (29,21) |

Not available with I seal option.

VERTICAL MOUNT, V-BRACKET

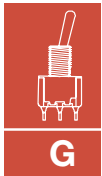
VERTICAL MOUNT, V-BRACKET, SNAP-IN



7301MD9\_\_BE  
**3PDT**

| OPTION CODE | DIM 'A'       |
|-------------|---------------|
| V4, V41     | .630 (16,00)  |
| V9          | 1.150 (29,21) |

Not available with I seal option.



## Toggle



Third Angle Projection

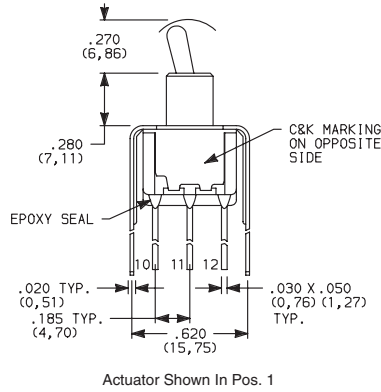
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

# 7000 Series Miniature Toggle Switches

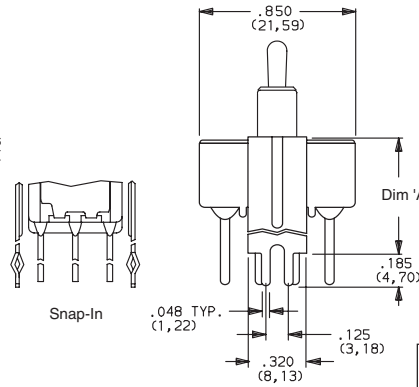
## TERMINATIONS

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

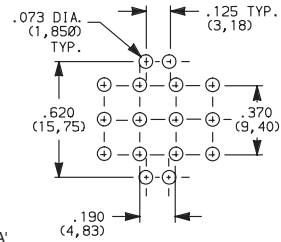
**V41** VERTICAL MOUNT, V-BRACKET, SNAP-IN



Not available with I seal option.



### PC MOUNTING



7401MD9\_BE  
4PDT

| OPTION CODE    | DIM 'A'       |
|----------------|---------------|
| <b>V4, V41</b> | .630 (16,00)  |
| <b>V9</b>      | 1.150 (29,21) |

## 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<br>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<br>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.

<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.

<sup>3</sup> CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.

<sup>4</sup> 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 alloy nickel plate.

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

U11-U415 model numbers  with all options when ordered with G, L, S, R, M or Q 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.

K, L and M options represent Non RoHS tin lead product and are not recommended for new designs. For additional information please contact Customer Service.



Third Angle  
Projection  
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

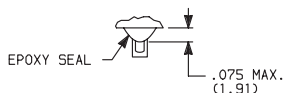


Toggle

# 7000 Series Miniature Toggle Switches

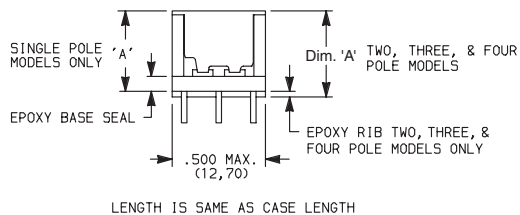
## SEAL

### E EPOXY SEAL



Compatible with "bottom-wash" PC board cleaning methods.

### I EPOXY POTTED BASE

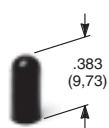


| NO. POLES | DIM 'A'      |
|-----------|--------------|
| SP        | .410 (10,41) |
| DP        | .440 (11,18) |
| 3P        | .505 (12,83) |
| 4P        | .505 (12,83) |

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

## AVAILABLE HARDWARE

### Cap

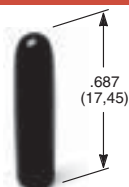


#### PART NO.

**896801000** WHITE  
**896802000** BLACK  
**896803000** RED

Material: Polyethylene  
Finish: Matte

### Cap

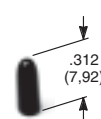


#### PART NO.

**763701000** WHITE  
**763702000** BLACK  
**763703000** RED

Material: Vinyl  
Finish: Matte

### Cap

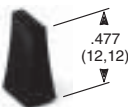


#### PART NO.

**706201000** WHITE  
**706202000** BLACK  
**706203000** RED

Material: Vinyl  
Finish: Matte

### L41 Lever handle

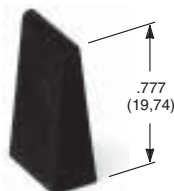


#### PART NO.

**481001000** WHITE  
**481002263** BLACK  
**481003000** RED

Material: Nylon  
Finish: Matte

### L42 Lever handle



#### PART NO.

**481101000** WHITE  
**481102263** BLACK  
**481103000** RED

Material: Nylon  
Finish: Matte

### Fits Z3 Termination female connector



#### PART NO.

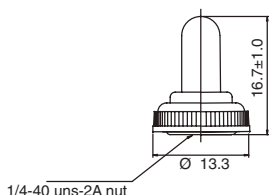
**530100000**

Available in loose pieces.

**NOTE:** Additional nuts, locking rings and lockwashers available separately, see Section O.

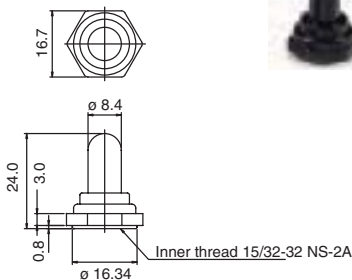
Other colors available, consult Customer Service Center.

### 759D02000 Sealing Boot



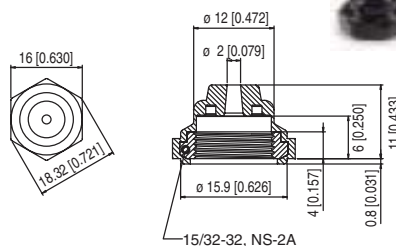
NOTE: For use with S actuator style when combined with D, H, H3, Y, and Y4 bushings

### 703D02000 Sealing Boot



NOTE: For use with T and TP style actuators

### 704D02000 Sealing Boot

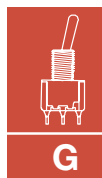


NOTE: For use with T, TP and T2P style actuators



Third Angle  
Projection

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



Toggle

