

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 F-15 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 Ω typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10⁹ Ω 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 F-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 F-4 thru F-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
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.	MP Anti-rotation, .200" high							V31 .460" high, snap-in V-bracket	
7401 4P On-None-On	P1 Flatted, anti-rotation, .840" high							V41 .630" high, snap-in V-bracket	
7403 4P On-Off-On	P4 Flatted, anti-rotation, .250" high							V71 .630" high, snap-in V-bracket	
7405 4P Mom.-Off-Mom.	SP Anti-rotation, .420" high							V81 .953" high, snap-in V-bracket	
7408 4P On-None-Mom.	T1 .487" high, 15/32 bushing								
7411 4P On-On-On	T1P Anti-rotation, .487" high, 15/32 bushing								
7413 4P On-On-Mom.	T2P Flatted, anti-rotation, .610" high, 15/32 bushing								
7415 4P Mom.-On-Mom.	TP Anti-rotation, .687" high, 15/32 bushing								

Note: UL models available, see pages F-4 & F-5.



Dimensions are shown: Inches (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 F-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.

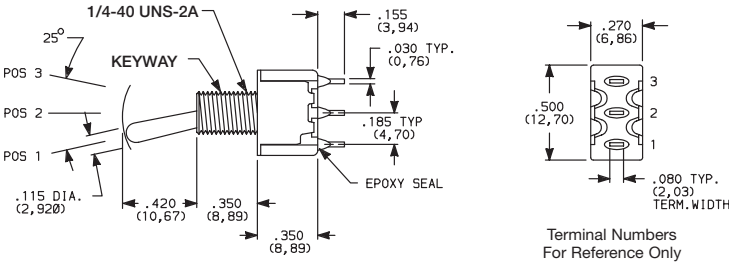
NOTE: Materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

SWITCH FUNCTION



NO. POLES	MODEL NO.	UL** MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS			SCHEMATIC
			POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
									
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.				
	7108	U18	ON	NONE	MOM.	2-3	N/A	2-1	
	7109	U19	NONE	ON	MOM.	N/A	2-3	2-1	

SPDT

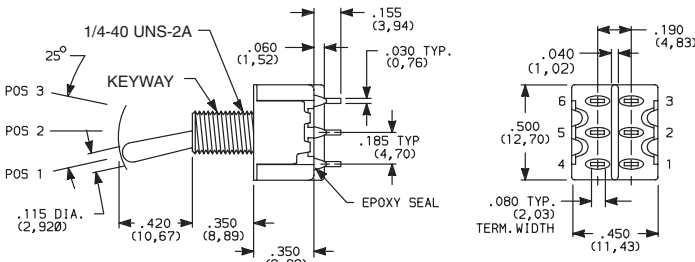


Part number shown: 7101SYZBE

Terminal Numbers
For Reference Only

DP	7201	U21	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4	DPDT
	7203	U23	ON	OFF	ON	2-3,5-6	OPEN	2-1,5-4	
	7205	U25	MOM.	OFF	MOM.				
	7207	U27	ON	OFF	MOM.				
	7208	U28	ON	NONE	MOM.	2-3,5-6	N/A	2-1,5-4	
	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

Terminal Numbers
For Reference Only

MOM. = Momentary

** U11-U415 model nos.



with all options when ordered with G, R, Q 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

www.ck-components.com

7000 Series Miniature Toggle 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	
									
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



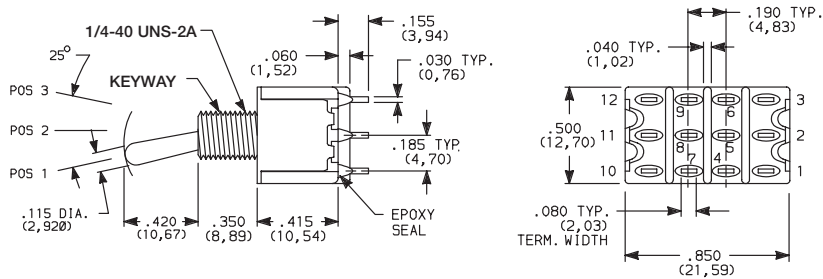
Part number shown: 7301SYZQE

Terminal Numbers
For Reference Only

4P	7401	U41	ON	NONE	ON	2-3,5-6,8-9,11-12	N/A	2-1,5-4,8-7,11-10	
	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.				
	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

4PDT

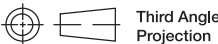


Part number shown: 7401SYZQE

Terminal Numbers
For Reference Only

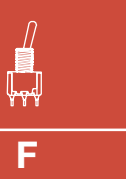
MOM. = Momentary
Wiring for 3-way switch, see Section N.

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



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Toggle

7000 Series Miniature Toggle Switches

ACTUATOR



S .420" HIGH ¹

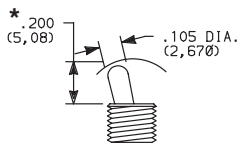
SP ANTIROTATION, .420" HIGH ^{2,3}



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

M .200" HIGH ¹

MP ANTIROTATION, .200" HIGH ^{2,3}



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

L, L1, L2 .840", .640", .550" HIGH ¹

L1P, L2P ANTIROTATION, .840", .640", .550" HIGH ^{2,3}



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

Caps are available separately, see page F-16.

***P1** FLATTED WITH ANTIROTATION, .840" HIGH ^{2,3}



***P3** FLATTED WITH ANTIROTATION, .450" HIGH ^{2,3}



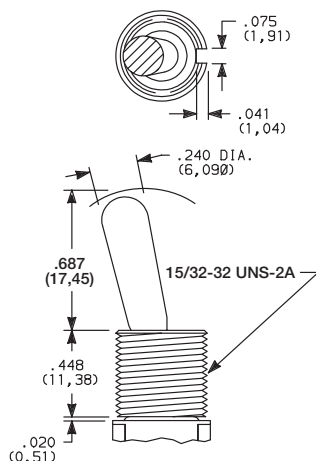
***P4** FLATTED WITH ANTIROTATION, .250" HIGH ^{2,3}



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

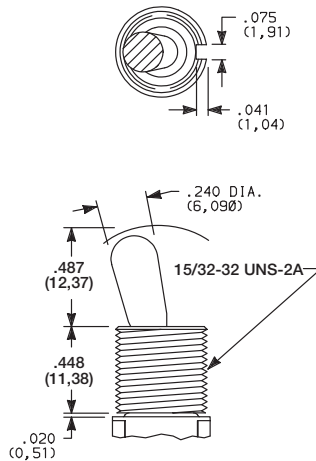
T .687 (17,45) HIGH ^{1,2}

TP ANTIROTATION, .687 (17,45) HIGH, 15/32 BUSHING ^{1,2,3}

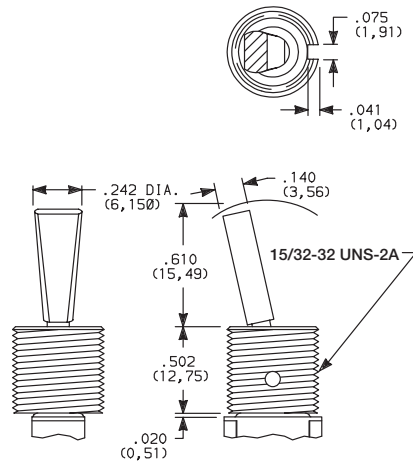


T1 .487 (12,37) HIGH ^{1,2}

T1P ANTIROTATION, .487 (12,37) HIGH, 15/32 BUSHING ^{1,2,3}



T2P FLATTED, ANTIROTATION, .610" HIGH, 15/32 BUSHING ^{1,2,3}



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.

- 1 L, L1, L2, M, S & TXX actuators not available with Y1 bushing.
 - 2 L1P, L2P, MP, P1, P3, P4, SP & TXX actuators not available with D8 & H4 bushing.
 - 3 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 N.



Dimensions are shown: Inches (mm)
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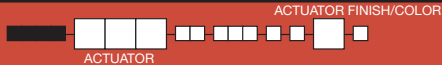
F

Toggle



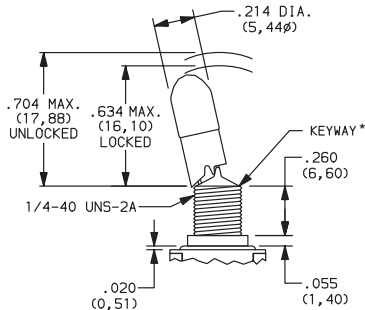
7000 Series Miniature Toggle Switches

ACTUATOR

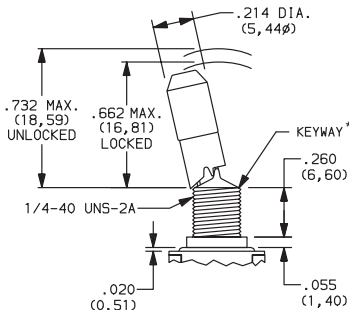


- K2** LOCKING LEVER, .704" HIGH (threaded)
K9 LOCKING LEVER, .704" HIGH (unthreaded)

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



Replaces K, K8



Replaces K1, K18

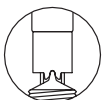
OPTION CODE	ACTUATOR CAP FINISH
NONE	NATURAL ALUMINUM—With Nickle Plated Bushing
2	BLACK ANODIZED ALUMINUM
3	RED ANODIZED ALUMINUM
7	BLUE ANODIZED ALUMINUM

* All KXX models including KXXCW have a keyway

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.

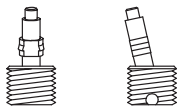
Locking levers supplied with bushing shown.

Bushing option code not required unless CW splashproof bushing ordered.

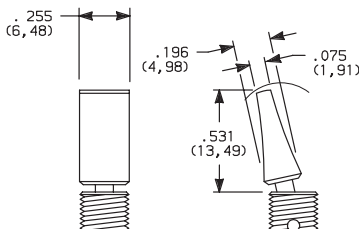
- L40** LEVER HANDLE WITHOUT CAP

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

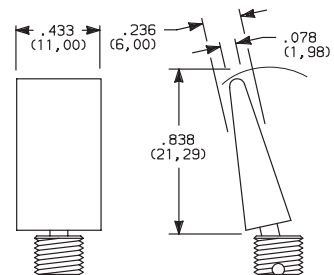
- L42** PLASTIC LEVER HANDLE WITH ANTIROTATION AND CAP, P/N 4811



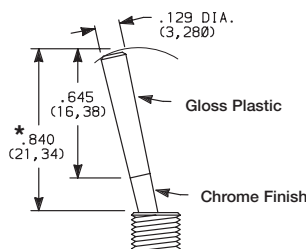
No color choice required



Finish: Matte (L41 & L42).



- L3** PLASTIC .940" HIGH



OPTION CODE	PLASTIC ACTUATOR COLORS
NONE	No Actuator Color (L40 option)
2	BLACK
3	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 F-16. L4X actuators not available with H4, Y1, Y4 bushings. Antirotation: Provides anti-'push-in' feature on actuator.



Third Angle
Projection

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



F

Toggle

7000 Series Miniature Toggle Switches

BUSHING



Y .350" HIGH, THREADED, KEYWAY
Y9 .350" HIGH, UNTHREADED, KEYWAY

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

1/4-40 UNS-2A

.350 (8,89)

NONE NO BUSHING

D .280" HIGH, THREADED, KEYWAY
D8 .280" HIGH, UNTHREADED, FLAT³
D9 .280" HIGH, UNTHREADED, KEYWAY

D8 D, D9

1/4-40 UNS-2A

.280 (7,11)

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.

H .296" HIGH, FLAT THREADED, HIGH TORQUE^{1,2}

1/4-40 UNS-2A

.296 (7,52)

MF6. OPTION-RELIEF OR IMPERFECT THD.

.020 (0,51)

.040 (1,02)

H3 .315" HIGH, KEYWAY THREADED, HIGH TORQUE^{1,2}

1/4-40 UNS-2A

.315 (8,00)

MF6. OPTION-RELIEF OR IMPERFECT THD.

.020 (0,51)

.040 (1,02)

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

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

H4 8mm HIGH, KEYWAY, THREADED, METRIC HIGH TORQUE^{1,2,3}

(M6P 0.75 THD.)

MF6. OPTION-RELIEF OR IMPERFECT THD.

(0,5)

(1,0)

Y1 .378" HIGH, KEYWAY, THREADED, HIGH TORQUE^{1,2,4}

1/4-40 UNS-2A

.378 (9,60)

MF6. OPTION-RELIEF OR IMPERFECT THD.

.020 (0,51)

.040 (1,02)

Y3 8.9mm HIGH, KEYWAY, THREADED, METRIC

(M6P 0.75 THD.)

(8,9)

Y4 .378" HIGH, FLAT, THREADED, HIGH TORQUE^{1,2,5}

1/4-40 UNS-2A

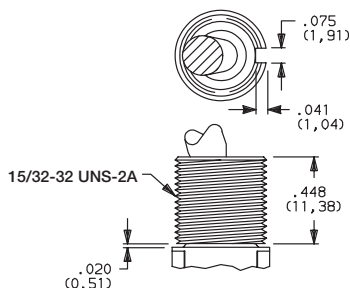
.370 (9,40)

MF6. OPTION-RELIEF OR IMPERFECT THD.

.020 (0,51)

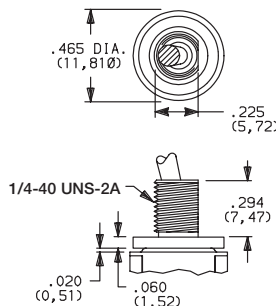
.040 (1,02)

CW THREADED, SPLASHPROOF^{1,2}
For T & T1 actuators.



IP67 Degree of protection, totally protected against dust, full-scale voltage protection, temporary immersion. Internal actuator seal standard. External bushing seal available separately from APM Hexseal, part # MFS-60064.

For actuators other than T, T1 and KXX.



IP67 Degree of protection, totally protected against dust, full-scale voltage protection, temporary immersion. Internal actuator seal and external bushing seal washer standard. IP65 degree of protection for LXP, MP, PX or SP with CW option.

OPTION CODE	BUSHING FINISH
NONE	NICKEL on all bushings except 'D8' satin chrome.
2	BLACK

- Will withstand 12 in.-lbs. of torque with no distortion.
- CW, H, H3, H4, Y1 & Y4 bushings not available on single pole models with A4 terminations.
- D8 & H4 bushings available only with L, L1, L2, M & S actuators.
- Y1 bushing available only with LXP, MP, PX & SP actuators.
- 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 N.

PANEL MOUNTING

1/4 INCH BUSHING

Without locking ring. With standard locking ring. With small locking ring.

METRIC BUSHING

Without locking ring. With locking ring.

15/32 INCH BUSHING

Without locking ring. With standard locking ring.



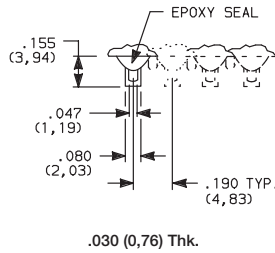
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7000 Series Miniature Toggle Switches

TERMINATIONS

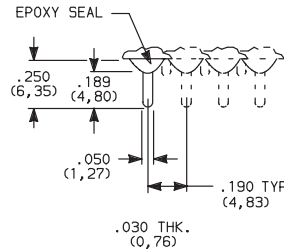
Z SOLDER LUG



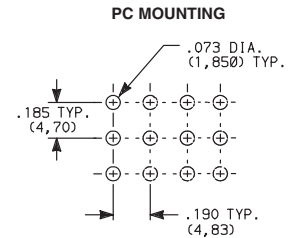
SPDT thru 4PDT

Not available with P, R or S contact materials.

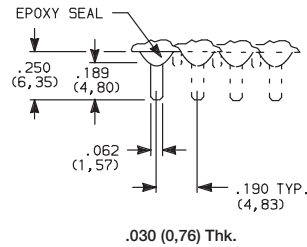
C PC THRU-HOLE



SPDT thru 4PDT



Z3 QUICK CONNECT

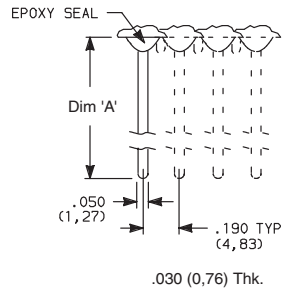


SPDT thru 4PDT

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

W, W1, W3, W4, W5

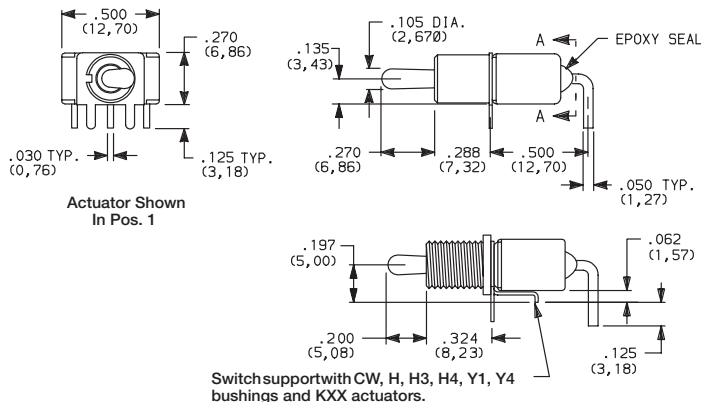
WIRE WRAP



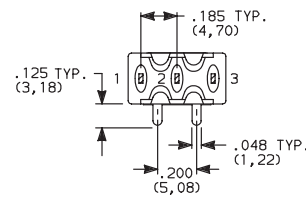
SPDT thru 4PDT

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

A RIGHT ANGLE, PC THRU-HOLE



Part No. Shown: 7101MHABE



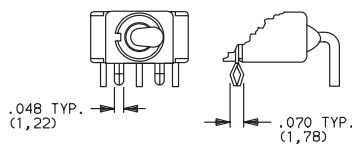
SECTION A-A

Terminal Nos.
For Reference Only



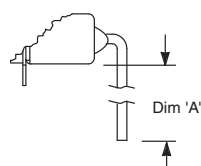
7101MD9ABE
Horizontal Actuation
SPDT

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



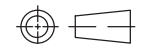
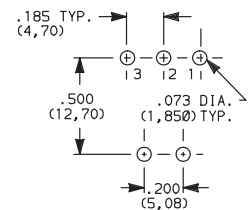
Not available with I seal option.
Terminal bend radii and lead-in manufacturing option.

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



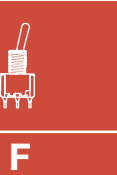
OPTION CODE	DIM 'A'
AW1	.72 (18,3)
AW4	.83 (21,1)

PC MOUNTING



Third Angle
Projection

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



F

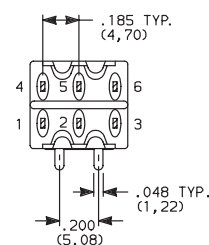
Toggle

TERMINATIONS

Diagram of a square component with dimensions:

- Width: .500 (12,70)
- Height: .450 (11,43)
- Thickness: .030 TYP. (0,76)

Technical drawing of a probe assembly. The drawing shows a cross-section of the assembly with various dimensions and labels. The dimensions are given in inches and millimeters (in parentheses). The labels include .105 DIA. (2,670), .225 (5,72), .270 (6,86), .288 (7,32), .500 (12,70), .150 (3,81), .050 TYP. (1,27), EPOXY SEAL, and A. The drawing also shows a probe tip and a probe body.

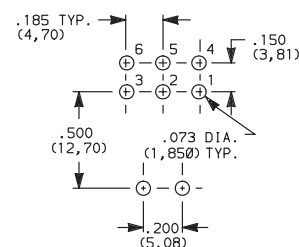


AW1, AW4 RIGHT ANGLE, EXTENDED,
PC THRU-HOLE

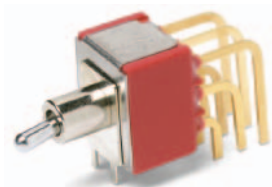


OPTION CODE	DIM 'A'
AW1	.40 (10,2)
AW4	.50 (12,7)

PC MOUNTING



A RIGHT ANGLE, PC THRU-HOLE

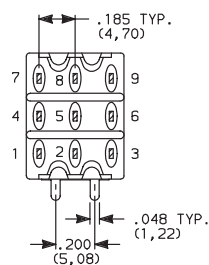


Technical drawing of a probe assembly. The drawing shows a cross-section of the assembly with various dimensions and labels. The dimensions are as follows:

- .105 DIA. (2, 670) - Dimension for the probe tip diameter.
- .324 (8, 23) - Dimension for the probe tip length.
- .270 (6, 86) - Dimension for the probe body length.
- .288 (7, 32) - Dimension for the probe body diameter.
- .565 (14, 35) - Dimension for the probe body length.
- .150 TYP. (3, 81) - Dimension for the probe body diameter.
- .050 TYP. (1, 27) - Dimension for the probe body diameter.

Labels include:

- A - Label for the probe tip.
- EPOXY SEAL - Label for the seal.
- 1, 4, 7 - Labels for the probe body.



SECTION A-A

PC MOUNTING



F-10

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

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TERMINATIONS

Diagram illustrating the dimensions of the 2-pin connector:

- Overall width: .500 (12, 70)
- Pin spacing: .125 TYP. (3, 18)
- Pin diameter: .046 TYP. (1, 17)
- Mounting tab width: .270 (6, 86)

Terminals & Support

Technical drawing of a CW, H, H3, H4, Y1, Y4 bushings and KXX actuators. The drawing shows two views of the component with dimensions in inches and millimeters.

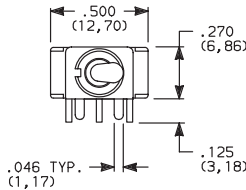
Top View Dimensions:

- .105 DIA. (2,678)
- EP0XY SEAL
- .270 (6,86)
- .288 (7,32)
- .500 (12,70)
- .030 T (0,76)
- .050 TYP. (1,27)

Bottom View Dimensions:

- .197 (5,00)
- .200 (5,08)
- .324 (8,23)
- .062 (1,57)
- .125 (3,18)

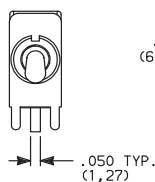
support with CW, H, H3, H4, Y1, Y4 bushings and KXX actuators.



Technical drawing of a probe assembly. Dimensions and labels include:

- $\varnothing .105$ DIA. (2, 670)
- EPOXY SEAL
- $\varnothing .270$ (6, 86)
- $\varnothing .422$ (10, 72)
- $\varnothing .365$ (9, 27)
- $\varnothing .050$ TYP. (1, 27)
- $\varnothing .03$ (0,)

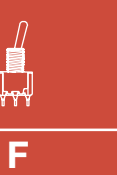
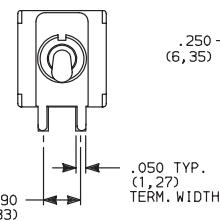
Figure 1 is a signal flow graph for a 3rd-order Butterworth low-pass filter. It consists of three stages of processing. Stage 1: The input signal splits into two paths. The top path goes through a delay block z^{-1} and a multiplier 0.156 . The bottom path goes through a multiplier 0.365 . Stage 2: The top path from Stage 1 goes through a delay block z^{-1} and a multiplier 0.073 . The bottom path from Stage 1 goes through a multiplier 0.200 . Stage 3: The top path from Stage 2 goes through a delay block z^{-1} and a multiplier 0.073 . The bottom path from Stage 2 goes through a multiplier 0.200 . The final output is the sum of the top and bottom paths of Stage 3.



Technical drawing of a 4-pin connector assembly. The drawing shows a side view of the connector with dimensions in inches and millimeters. Key dimensions include:

- Overall width: .270 (6,86)
- Pin spacing (center-to-center): .288 (7,32)
- Pin diameter: .030 TYP. (0,76)
- Pin length: .150 TYP. (3,81)
- Pin 1 to Pin 2 distance: .500 (12,70)
- Pin 2 to Pin 3 distance: .125 (3,18)
- Pin 3 to Pin 4 distance: .125 (3,18)
- Pin 4 to Pin 5 distance: .125 (3,18)
- Pin 5 to Pin 6 distance: .125 (3,18)
- Pin 6 to Pin 7 distance: .125 (3,18)
- Pin 7 to Pin 8 distance: .125 (3,18)
- Pin 8 to Pin 9 distance: .125 (3,18)
- Pin 9 to Pin 10 distance: .125 (3,18)
- Pin 10 to Pin 11 distance: .125 (3,18)
- Pin 11 to Pin 12 distance: .125 (3,18)
- Pin 12 to Pin 13 distance: .125 (3,18)
- Pin 13 to Pin 14 distance: .125 (3,18)
- Pin 14 to Pin 15 distance: .125 (3,18)
- Pin 15 to Pin 16 distance: .125 (3,18)
- Pin 16 to Pin 17 distance: .125 (3,18)
- Pin 17 to Pin 18 distance: .125 (3,18)
- Pin 18 to Pin 19 distance: .125 (3,18)
- Pin 19 to Pin 20 distance: .125 (3,18)
- Pin 20 to Pin 21 distance: .125 (3,18)
- Pin 21 to Pin 22 distance: .125 (3,18)
- Pin 22 to Pin 23 distance: .125 (3,18)
- Pin 23 to Pin 24 distance: .125 (3,18)
- Pin 24 to Pin 25 distance: .125 (3,18)
- Pin 25 to Pin 26 distance: .125 (3,18)
- Pin 26 to Pin 27 distance: .125 (3,18)
- Pin 27 to Pin 28 distance: .125 (3,18)
- Pin 28 to Pin 29 distance: .125 (3,18)
- Pin 29 to Pin 30 distance: .125 (3,18)
- Pin 30 to Pin 31 distance: .125 (3,18)
- Pin 31 to Pin 32 distance: .125 (3,18)
- Pin 32 to Pin 33 distance: .125 (3,18)
- Pin 33 to Pin 34 distance: .125 (3,18)
- Pin 34 to Pin 35 distance: .125 (3,18)
- Pin 35 to Pin 36 distance: .125 (3,18)
- Pin 36 to Pin 37 distance: .125 (3,18)
- Pin 37 to Pin 38 distance: .125 (3,18)
- Pin 38 to Pin 39 distance: .125 (3,18)
- Pin 39 to Pin 40 distance: .125 (3,18)
- Pin 40 to Pin 41 distance: .125 (3,18)
- Pin 41 to Pin 42 distance: .125 (3,18)
- Pin 42 to Pin 43 distance: .125 (3,18)
- Pin 43 to Pin 44 distance: .125 (3,18)
- Pin 44 to Pin 45 distance: .125 (3,18)
- Pin 45 to Pin 46 distance: .125 (3,18)
- Pin 46 to Pin 47 distance: .125 (3,18)
- Pin 47 to Pin 48 distance: .125 (3,18)
- Pin 48 to Pin 49 distance: .125 (3,18)
- Pin 49 to Pin 50 distance: .125 (3,18)
- Pin 50 to Pin 51 distance: .125 (3,18)
- Pin 51 to Pin 52 distance: .125 (3,18)
- Pin 52 to Pin 53 distance: .125 (3,18)
- Pin 53 to Pin 54 distance: .125 (3,18)
- Pin 54 to Pin 55 distance: .125 (3,18)
- Pin 55 to Pin 56 distance: .125 (3,18)
- Pin 56 to Pin 57 distance: .125 (3,18)
- Pin 57 to Pin 58 distance: .125 (3,18)
- Pin 58 to Pin 59 distance: .125 (3,18)
- Pin 59 to Pin 60 distance: .125 (3,18)
- Pin 60 to Pin 61 distance: .125 (3,18)
- Pin 61 to Pin 62 distance: .125 (3,18)
- Pin 62 to Pin 63 distance: .125 (3,18)
- Pin 63 to Pin 64 distance: .125 (3,18)
- Pin 64 to Pin 65 distance: .125 (3,18)
- Pin 65 to Pin 66 distance: .125 (3,18)
- Pin 66 to Pin 67 distance: .125 (3,18)
- Pin 67 to Pin 68 distance: .125 (3,18)
- Pin 68 to Pin 69 distance: .125 (3,18)
- Pin 69 to Pin 70 distance: .125 (3,18)
- Pin 70 to Pin 71 distance: .125 (3,18)
- Pin 71 to Pin 72 distance: .125 (3,18)
- Pin 72 to Pin 73 distance: .125 (3,18)
- Pin 73 to Pin 74 distance: .125 (3,18)
- Pin 74 to Pin 75 distance: .125 (3,18)
- Pin 75 to Pin 76 distance: .125 (3,18)
- Pin 76 to Pin 77 distance: .125 (3,18)
- Pin 77 to Pin 78 distance: .125 (3,18)
- Pin 78 to Pin 79 distance: .125 (3,18)
- Pin 79 to Pin 80 distance: .125 (3,18)
- Pin 80 to Pin 81 distance: .125 (3,18)
- Pin 81 to Pin 82 distance: .125 (3,18)
- Pin 82 to Pin 83 distance: .125 (3,18)
- Pin 83 to Pin 84 distance: .125 (3,18)
- Pin 84 to Pin 85 distance: .125 (3,18)
- Pin 85 to Pin 86 distance: .125 (3,18)
- Pin 86 to Pin 87 distance: .125 (3,18)
- Pin 87 to Pin 88 distance: .125 (3,18)
- Pin 88 to Pin 89 distance: .125 (3,18)
- Pin 89 to Pin 90 distance: .125 (3,18)
- Pin 90 to Pin 91 distance: .125 (3,18)
- Pin 91 to Pin 92 distance: .125 (3,18)
- Pin 92 to Pin 93 distance: .125 (3,18)
- Pin 93 to Pin 94 distance: .125 (3,18)
- Pin 94 to Pin 95 distance: .125 (3,18)
- Pin 95 to Pin 96 distance: .125 (3,18)
- Pin 96 to Pin 97 distance: .125 (3,18)
- Pin 97 to Pin 98 distance: .125 (3,18)
- Pin 98 to Pin 99 distance: .125 (3,18)
- Pin 99 to Pin 100 distance: .125 (3,18)

Labels include: A, A, EPOXY SEAL, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.



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7000 Series Miniature Toggle Switches

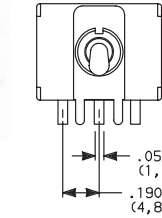
TERMINATIONS



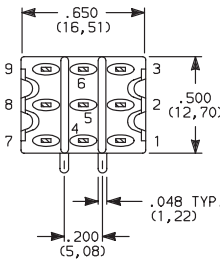
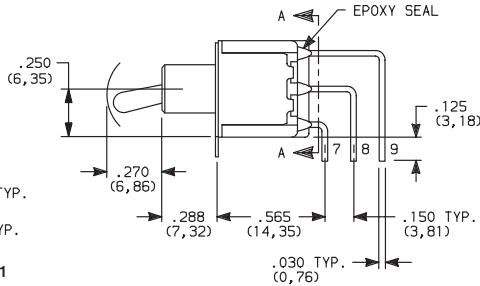
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE,
.150" PITCH



7301MD9AV2BE
Vertical Actuation
3PDT

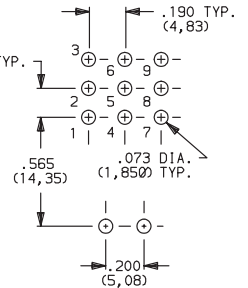


Actuator Shown In Pos. 1



SECTION A-A

PC MOUNTING

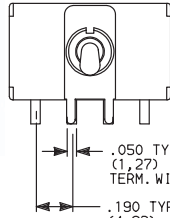


Not available with I seal option.
Terminal bend radii and lead-in manufacturing option.

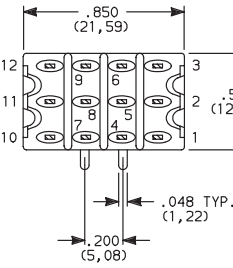
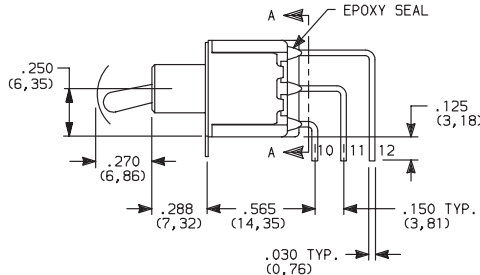
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE,
.150" PITCH



7401MD9AV2BE
Vertical Actuation
4PDT

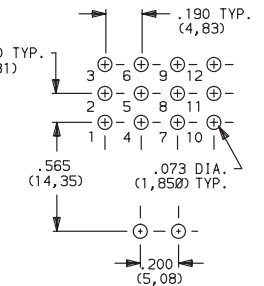


Actuator Shown In Pos. 1



SECTION A-A

PC MOUNTING



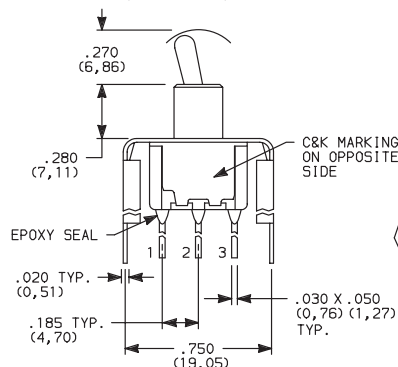
Not available with I seal option.
Terminal bend radii and lead-in manufacturing option.

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

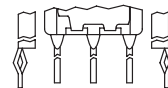
V21, V71, V81 VERTICAL MOUNT, V-BRACKET, SNAP-IN



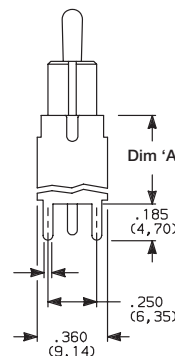
7101MD9_BE
SPDT



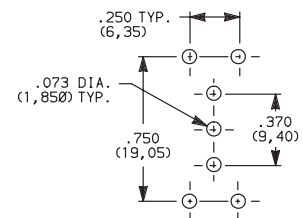
Actuator Shown In Pos. 1



Snap-In



PC MOUNTING



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

Not available with I seal option.



F

Toggle



Third Angle
Projection

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

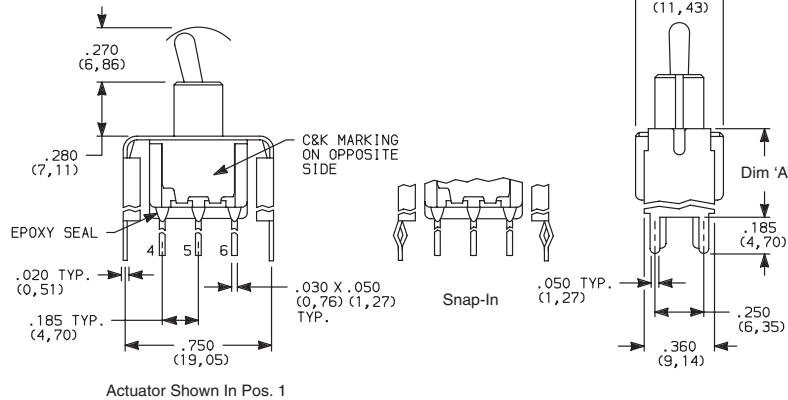
7000 Series Miniature Toggle Switches

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'
V2, V21	.555 (14,10)
V6, V61	.460 (11,68)
V7, V71	.630 (16,00)
V8, V81	.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



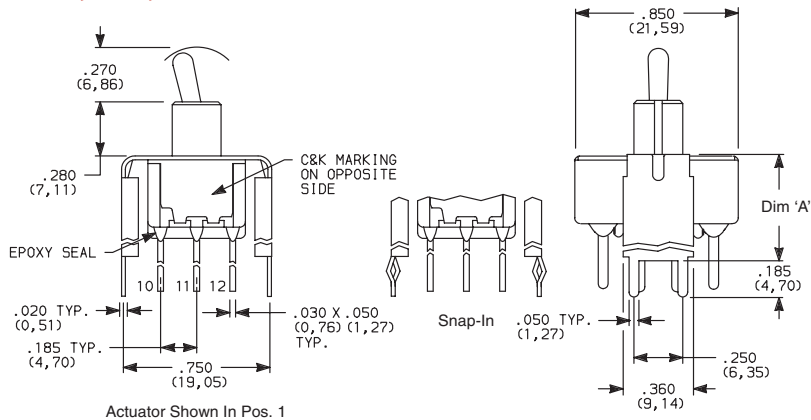
OPTION CODE	DIM 'A'
V2, V21	.555 (14,10)
V7, V71	.630 (16,00)
V8, V81	.953 (24,21)



7301MD9_BE
3PDT

V2, V7, V8 VERTICAL MOUNT, V-BRACKET

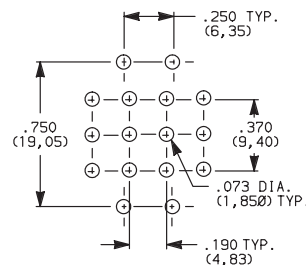
V21, V71, V81 VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.

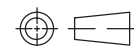
PC MOUNTING



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



7401MD9_BE
4PDT



Third Angle
Projection

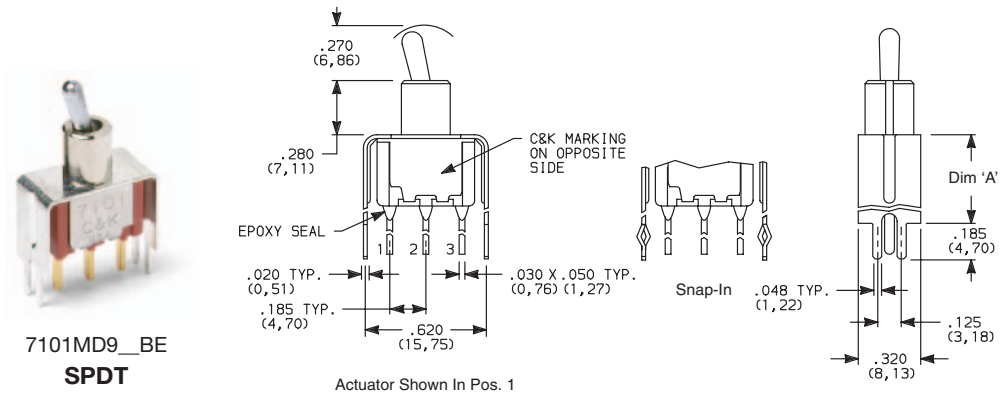


7000 Series Miniature Toggle Switches

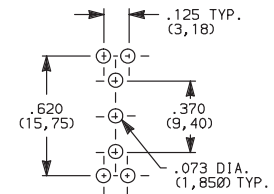
TERMINATIONS

V3, V4, V9 VERTICAL MOUNT, V-BRACKET

V31, V41 VERTICAL MOUNT, V-BRACKET, SNAP-IN



PC MOUNTING

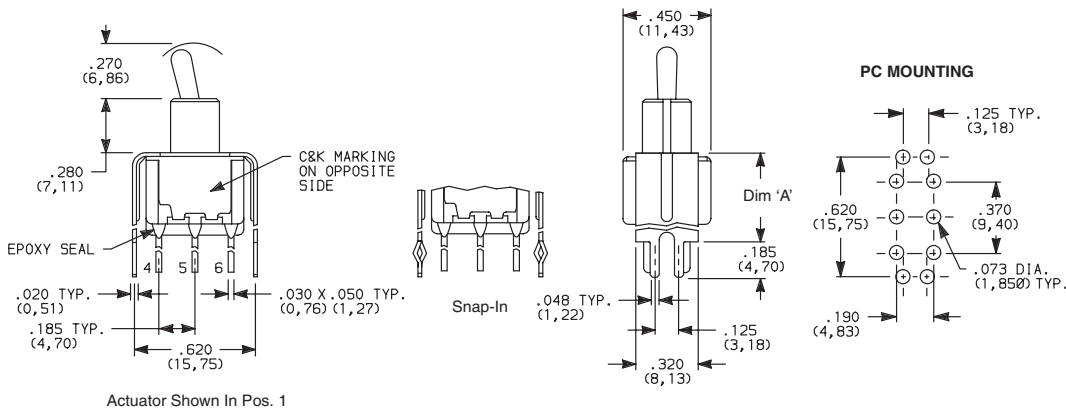


OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4, V41	.630 (16,00)
V9	1.150 (29,21)

Not available with I seal option.

V3, V4, V9 VERTICAL MOUNT, V-BRACKET

V31, V41 VERTICAL MOUNT, V-BRACKET, SNAP-IN



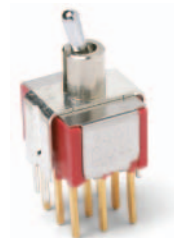
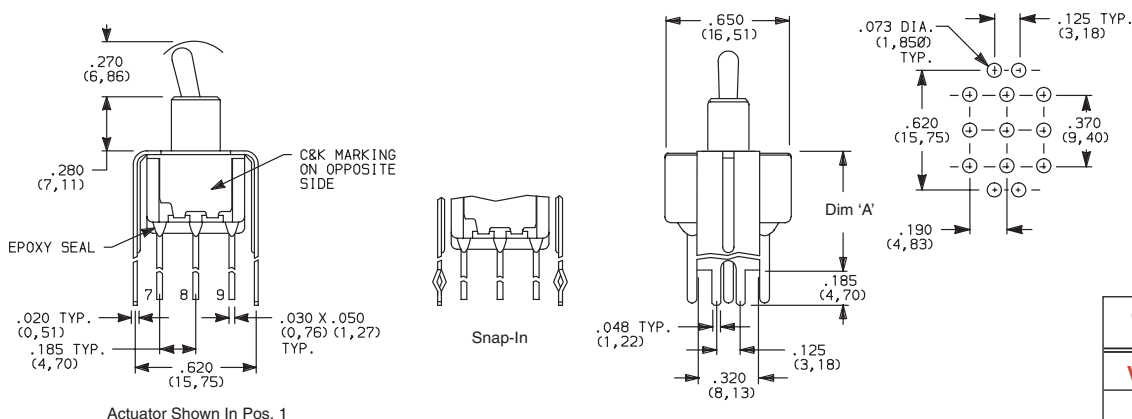
7201MD9_BE
DPDT

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.

V4, V9 VERTICAL MOUNT, V-BRACKET

V41 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.



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

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7000 Series Miniature Toggle Switches

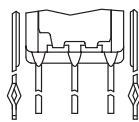
TERMINATIONS

V4, V9 VERTICAL MOUNT, V-BRACKET
V41 VERTICAL MOUNT, V-BRACKET, SNAP-IN

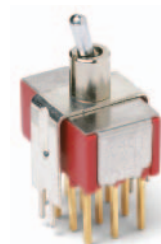
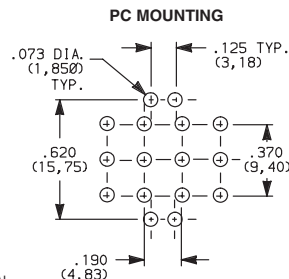
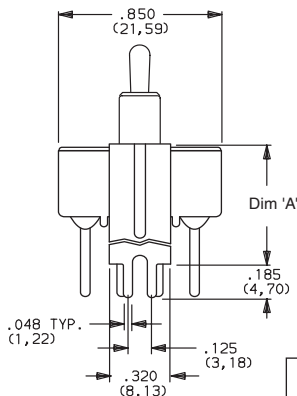


Actuator Shown In Pos. 1

Not available with I seal option.



Snap-In



7401MD9_BE
4PDT

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

CONTACT MATERIAL

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

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

¹ CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.

² END CONTACTS: Coin silver, with gold plate over nickel plate.

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

⁴ END CONTACTS: Coin silver, silver plated.

⁵ CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.

⁶ 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 **cRLus** with all options when ordered with G, S, R, 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.



Third Angle
Projection

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

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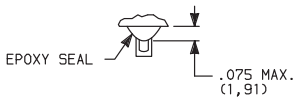


Toggle

7000 Series Miniature Toggle Switches

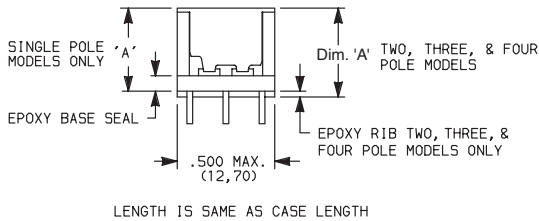
SEAL

E EPOXY SEAL



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

I EPOXY POTTED BASE



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

AVAILABLE HARDWARE

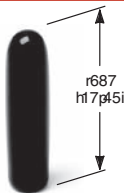
Cap



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

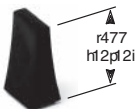
Cap



PART NO.
706201000 WHITE
706202000 BLACK
706203000 RED

Material: Vinyl
 Finish: Matte

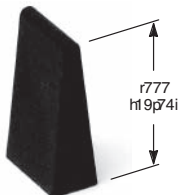
L41 Lever handle



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



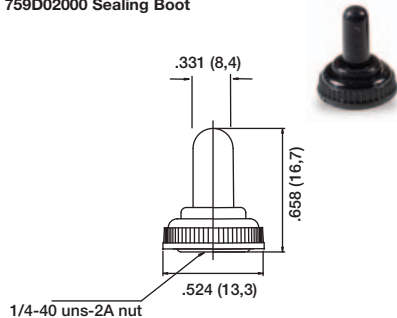
PART NO.
530100000

Available in loose pieces.

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

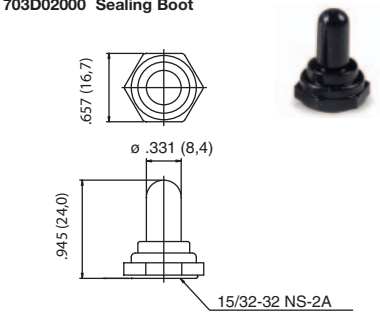
Other colors available, consult Customer Service Center.

759D02000 Sealing Boot



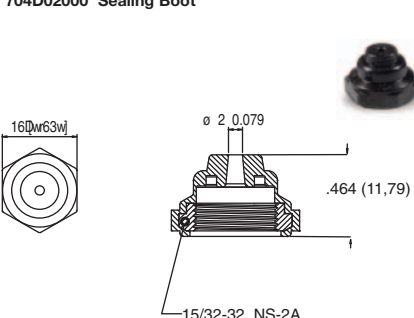
NOTE: For use with S actuator style when combined with D, H, H3, Y, and Y4 bushings

703D02000 Sealing Boot



NOTE: For use with T and TP style actuators. **Can not be used for Switch Functions: 7103, 7203, 7303, 7403, 7107, 7207, 7307, 7407.**

704D02000 Sealing Boot



NOTE: For use with T, TP and T2P style actuators. Can not be used for Switch Functions: 7103, 7203, 7303, 7403, 7107, 7207, 7307, and 7407.



Third Angle
Projection

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

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