

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/CSA** MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS			SCHEMATIC
			POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
			KEYWAY	KEYWAY	KEYWAY	KEYWAY	KEYWAY	KEYWAY	
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									

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	
	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									

DPDT

Part number shown: 7201SYZQE

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, R, Q or S contact material.



Third Angle
Projection

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

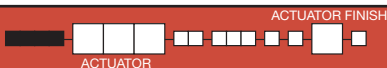
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SWITCH FUNCTION

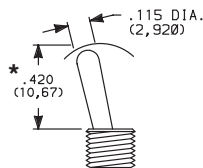
7000 Series Miniature Toggle Switches

ACTUATOR



S .420" HIGH ¹

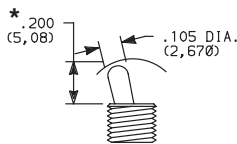
SP ANTIROTATION, .420" HIGH ^{2,3}



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

M .200" HIGH ¹

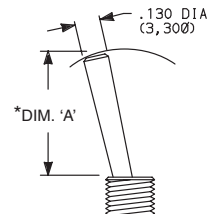
MP ANTIROTATION, .200" HIGH ^{2,3}



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

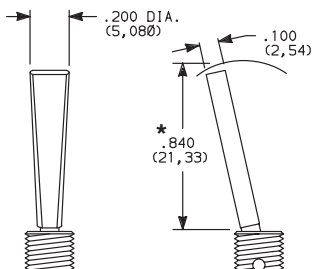
L1P, L2P ANTIROTATION, .840", .640", .550" HIGH ^{2,3}



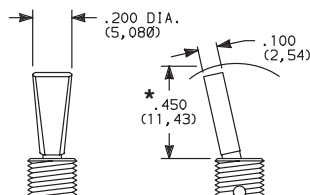
OPTION CODE	DIM 'A'
L	.840 (21,34)
L1, L1P	.640 (16,26)
L2, L2P	.550 (13,97)

Caps are available separately, see page F-16.

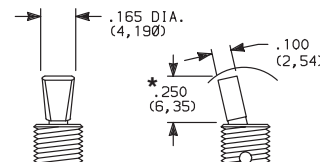
***P1** FLATTED WITH ANTIROTATION, .840" HIGH ^{2,3}



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



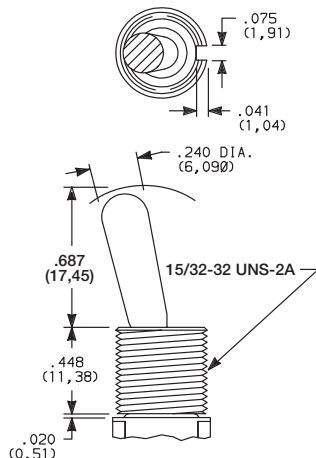
***P4** FLATTED WITH ANTIROTATION, .250" HIGH ^{2,3}



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

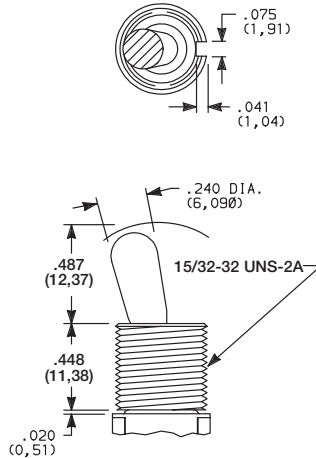
T .687 (17,45) HIGH ^{1,2}

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

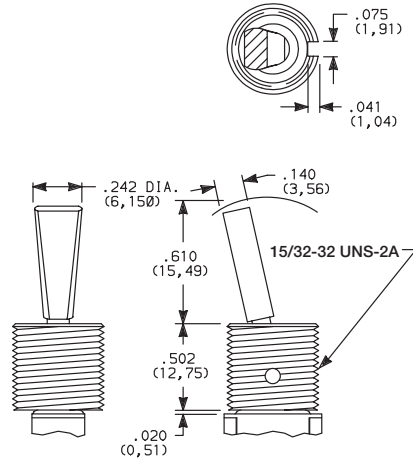


T1 .487 (12,37) HIGH ^{1,2}

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.



F

Toggle

- 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.



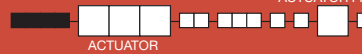
Third Angle Projection

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

C&K

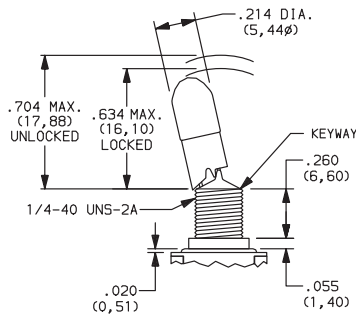
7000 Series Miniature Toggle Switches

ACTUATOR

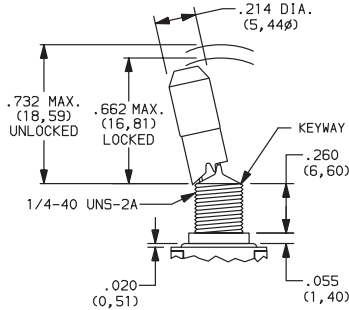


- K2** LOCKING LEVER, .704" HIGH
(threaded)
- K9** LOCKING LEVER, .704" HIGH
(unthreaded)

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



Replaces K, K8



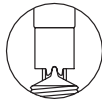
Replaces K1, K18

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

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.

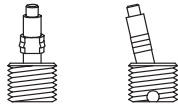
Locking levers supplied with bushing shown.

Bushing option code not required unless CW splashproof bushing ordered.

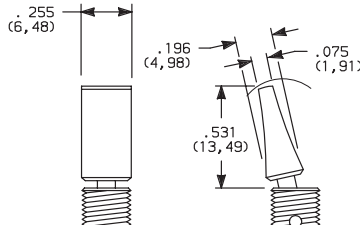
- L40** LEVER HANDLE WITHOUT CAP

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

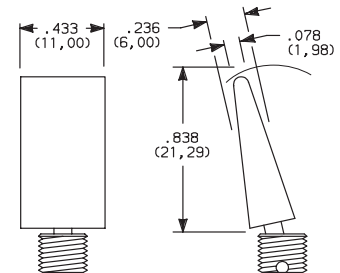
- L42** PLASTIC LEVER HANDLE WITH
ANTIROTATION AND CAP, P/N 4811



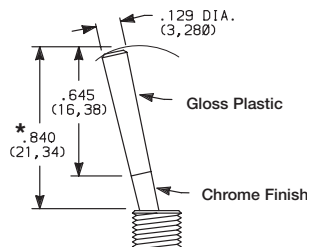
No color choice required



Finish: Matte (L41 & L42).



- L3** PLASTIC .940" HIGH



OPTION CODE	PLASTIC ACTUATOR COLORS
NONE	No Actuator Color (L40 option)
2	BLACK
3	RED

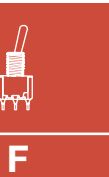
* Add .070 (1,78) for D, D8 & D9 bushings, subtract .020 (0,51) for H3 bushing.

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

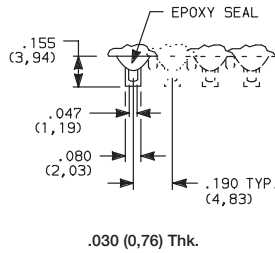
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change



7000 Series Miniature Toggle Switches

TERMINATIONS

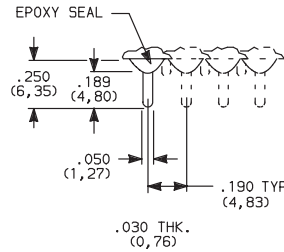
Z SOLDER LUG



SPDT thru 4PDT

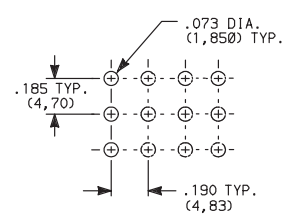
Not available with P, R or S contact materials.

C PC THRU-HOLE

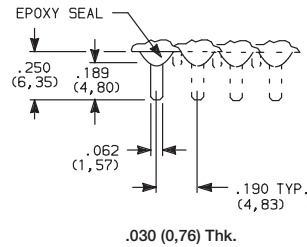


SPDT thru 4PDT

PC MOUNTING



Z3 QUICK CONNECT

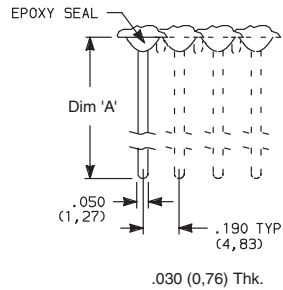


SPDT thru 4PDT

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

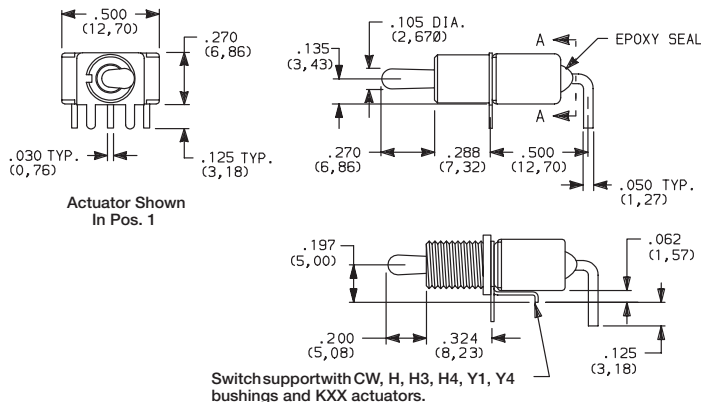
WIRE WRAP



SPDT thru 4PDT

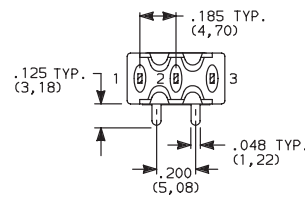
OPTION CODE	DIM 'A'
W	.750 (19,05)
W1	.964 (24,48)
W3	.425 (10,80)
W4	1.062 (26,97)
W5	1.305 (33,15)

A RIGHT ANGLE, PC THRU-HOLE



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

Part No. Shown: 7101MHABE



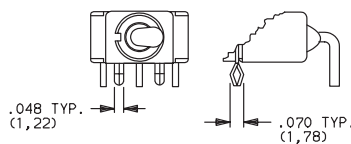
SECTION A-A

Terminal Nos.
For Reference Only



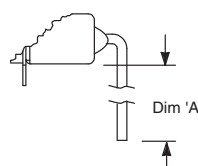
7101MD9ABE
Horizontal Actuation
SPDT

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



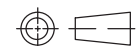
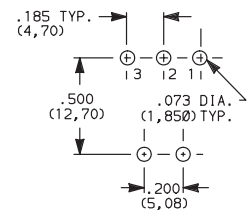
Not available with I seal option.
Terminal bend radii and lead-in manufacturing option.

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



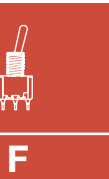
OPTION CODE	DIM 'A'
AW1	.72 (18,3)
AW4	.83 (21,1)

PC MOUNTING



Third Angle
Projection

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



F

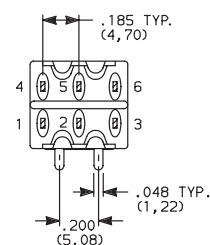
Toggle

TERMINATIONS

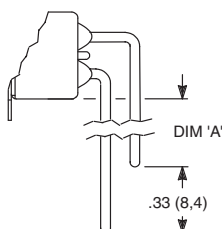
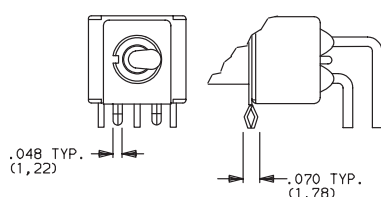
Diagram of a square component with dimensions:

- Width: .500 (12, 70)
- Height: .450 (11, 43)
- Pin 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.

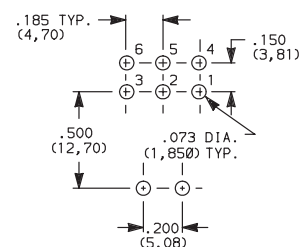


AW1, AW4 RIGHT ANGLE, EXTENDED,
PC THRU-HOLE



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

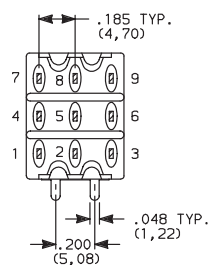
PC MOUNTING



A RIGHT ANGLE, PC THRU-HOLE

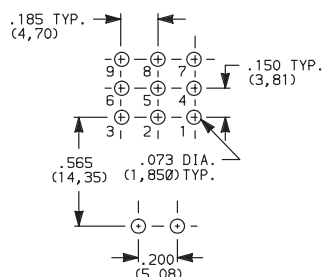


Technical drawing of a probe assembly. The drawing shows a cylindrical probe with a .105 DIA. (2, 670) tip. The probe is mounted on a base with an EPOXY SEAL. The probe is labeled with 'A' at both ends. The base has a .324 (8, 23) diameter and a .270 (6, 86) length. The probe has a .288 (7, 32) length. The base has a .565 (14, 35) length. The probe has a .150 TYP. (3, 81) length. The base has a .050 TYP. (1, 27) length. The probe is labeled with '1', '4', and '7' at the bottom. The drawing is labeled with 'A' at both ends of the probe.



SECTION A-A

PC MOUNTING



F-10

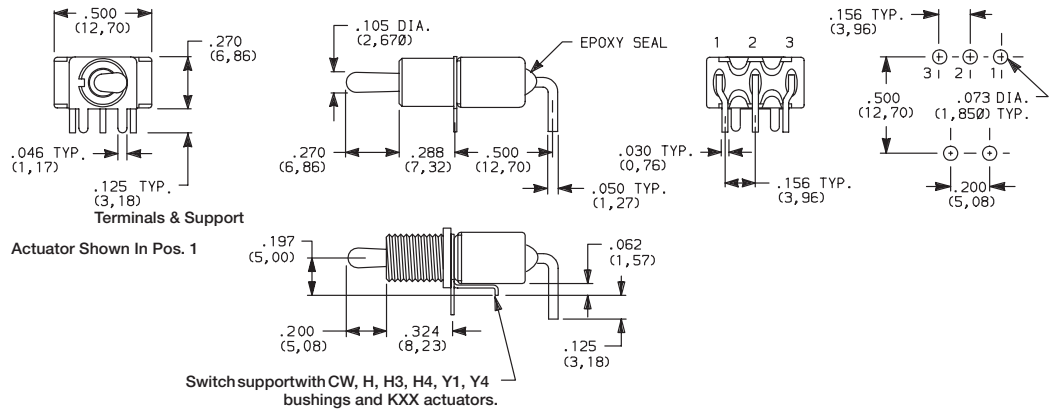
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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7000 Series Miniature Toggle Switches

TERMINATIONS

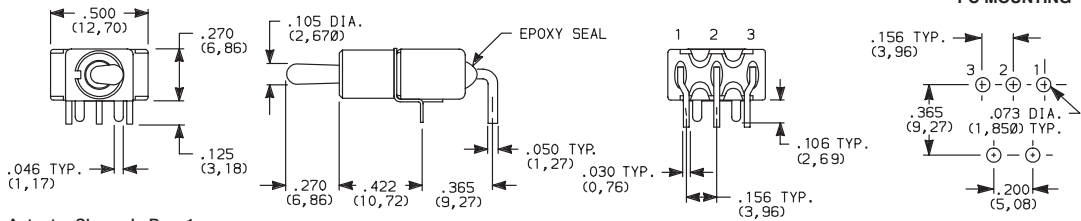
A2 RIGHT ANGLE, PC THRU-HOLE, .156" PITCH



7101MHA2BE
Horizontal Actuation
SPDT

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

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

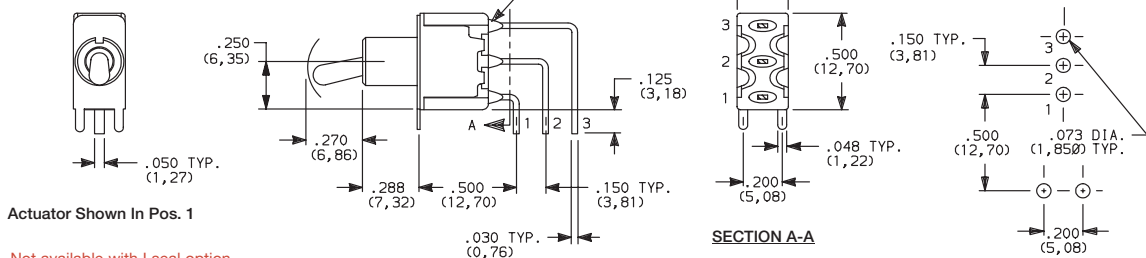


7101MD9A4BE
Horizontal Actuation
SPDT

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.

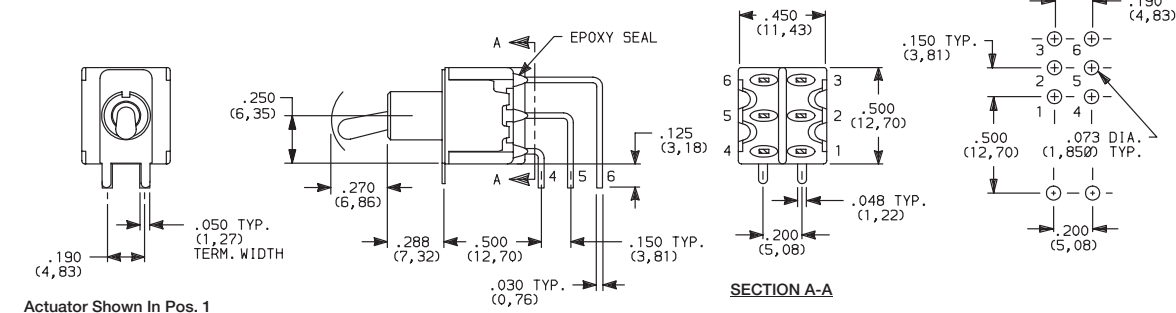
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



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: Inches (mm)
Specifications and dimensions subject to change



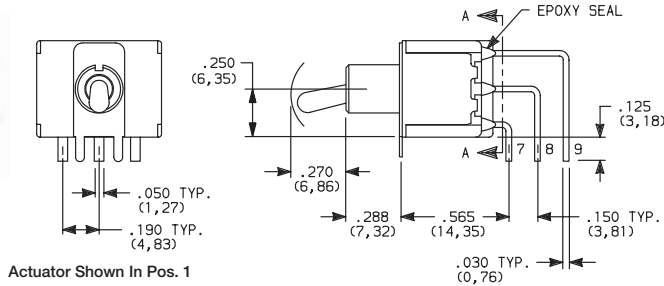
7000 Series Miniature Toggle Switches

TERMINATIONS

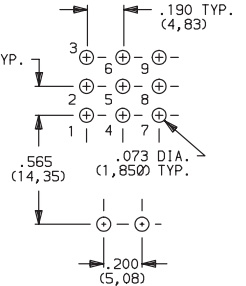
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE,
.150" PITCH



7301MD9AV2BE
Vertical Actuation
3PDT



PC MOUNTING

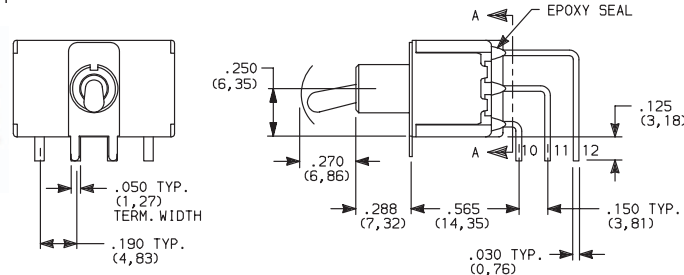


Not available with I seal option.
Terminal bend radii and lead-in manufacturing option.

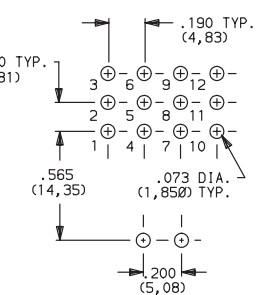
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE,
.150" PITCH



7401MD9AV2BE
Vertical Actuation
4PDT



PC MOUNTING



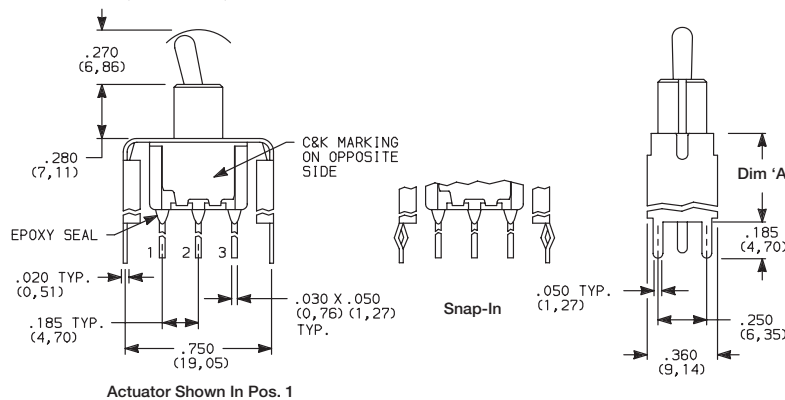
Not available with I seal option.
Terminal bend radii and lead-in manufacturing option.

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

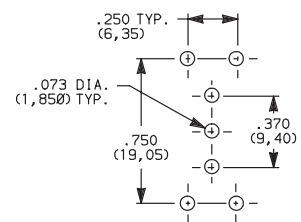
V21, V71, V81 VERTICAL MOUNT, V-BRACKET, SNAP-IN



7101MD9_BE
SPDT



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

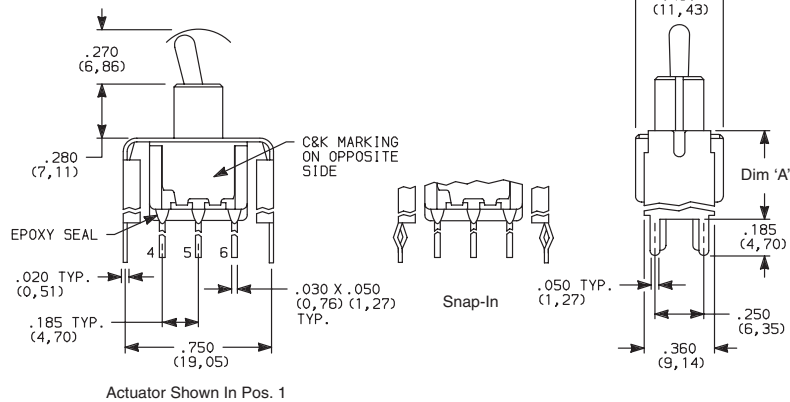
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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TERMINATIONS

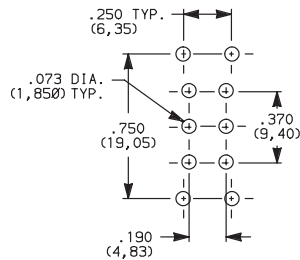
V2, V6, V7, V8 VERTICAL MOUNT, V-BRACKET

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



Not available with I seal option.

PC MOUNTING



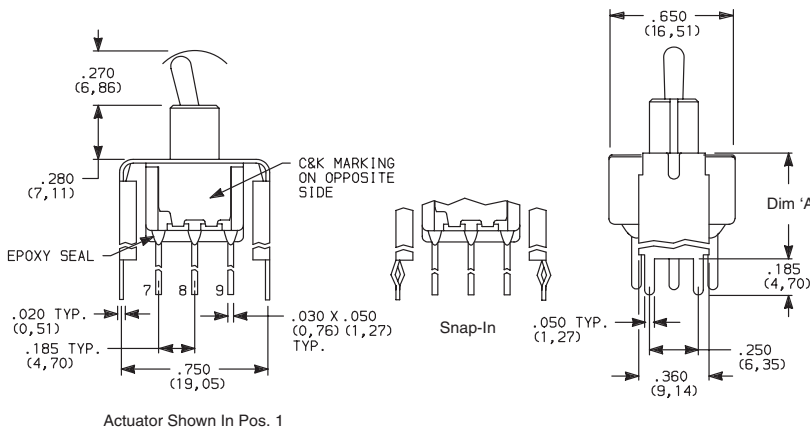
OPTION CODE	DIM 'A'
V2, V21	.555 (14,10)
V6, V61	.460 (11,68)
V7, V71	.630 (16,00)
V8, V81	.953 (24,21)



7201MD9__BE
DPDT

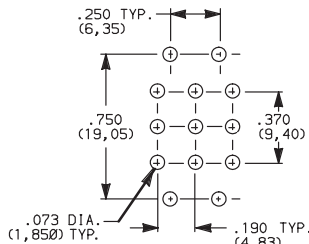
V2, V7, V8 VERTICAL MOUNT, V-BRACKET

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



Not available with I seal option.

PC MOUNTING



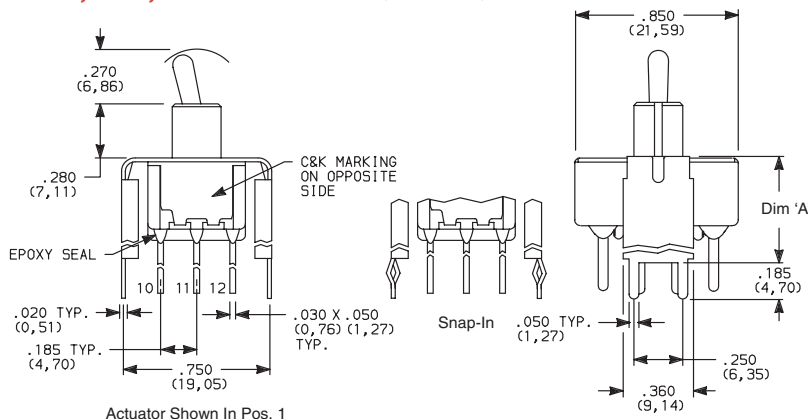
OPTION CODE	DIM 'A'
V2, V21	.555 (14,10)
V7, V71	.630 (16,00)
V8, V81	.953 (24,21)



7301MD9_BE
3PDT

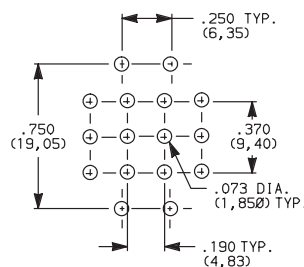
V2, V7, V8 VERTICAL MOUNT, V-BRACKET

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



Not available with I seal option.

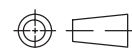
PC MOUNTING



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

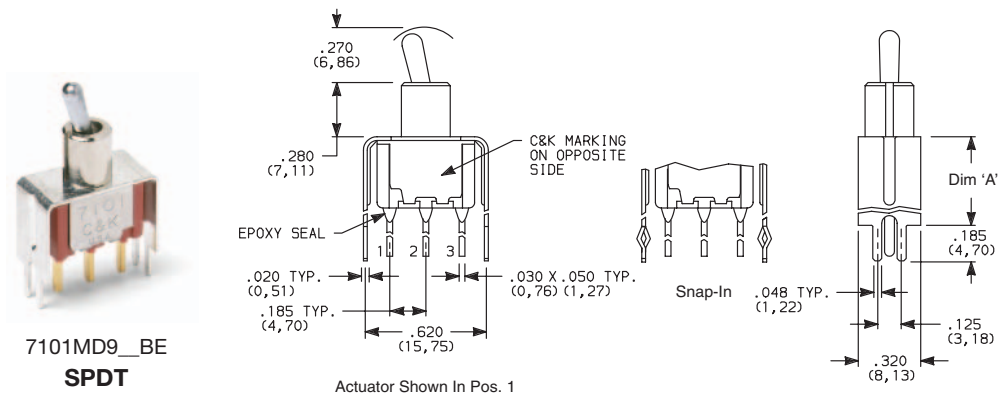
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

7000 Series Miniature Toggle Switches

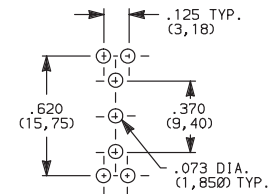
TERMINATIONS

V3, V4, V9 VERTICAL MOUNT, V-BRACKET

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



PC MOUNTING

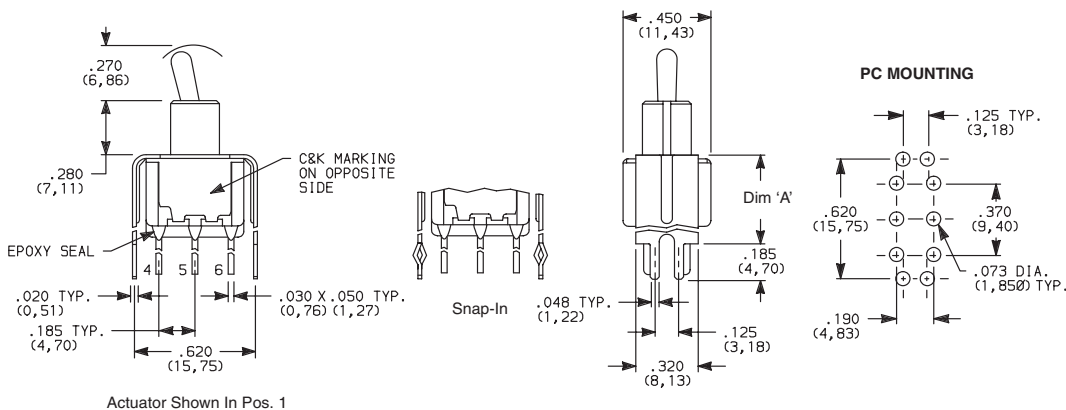


OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4, V41	.630 (16,00)
V9	1.150 (29,21)

Not available with I seal option.

V3, V4, V9 VERTICAL MOUNT, V-BRACKET

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



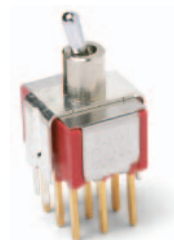
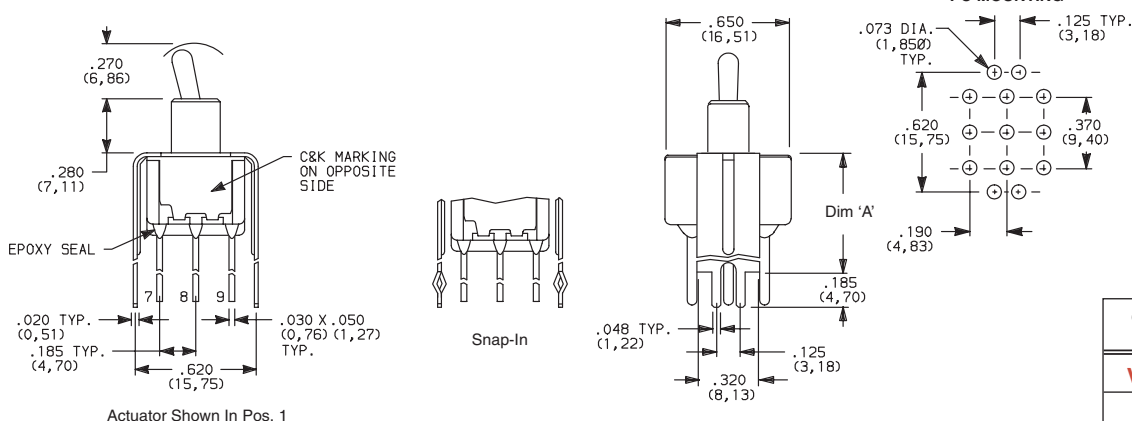
7201MD9_BE
DPDT

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

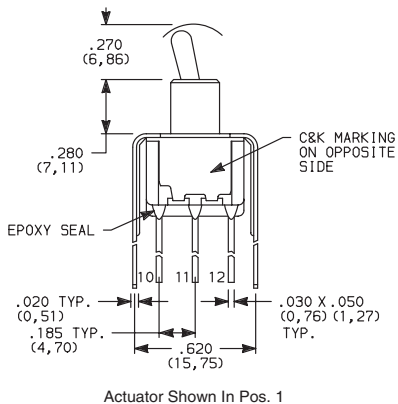
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7000 Series Miniature Toggle Switches

TERMINATIONS

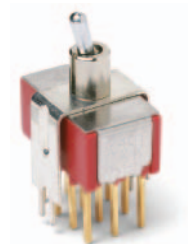
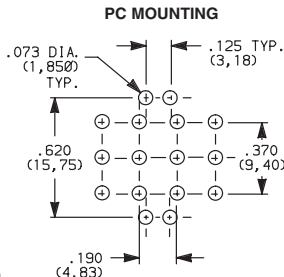
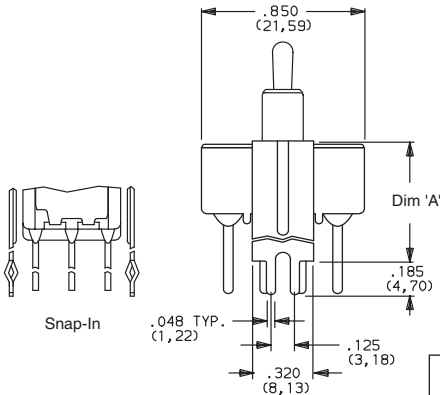
V4, V9 VERTICAL MOUNT, V-BRACKET

V41 VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

Not available with I seal option.



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   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.

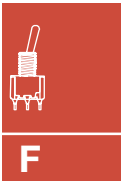
P, S & R contact materials not available with Z & Z3 terminations.



Third Angle
Projection

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

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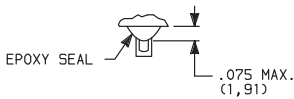


Toggle

7000 Series Miniature Toggle Switches

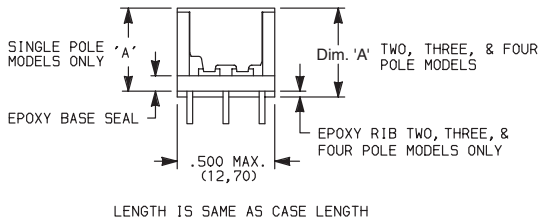
SEAL

E EPOXY SEAL



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

I EPOXY POTTED BASE

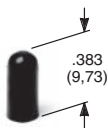


NO. POLES	DIM 'A'
SP	.410 (10,41)
DP	.440 (11,18)
3P	.505 (12,83)
4P	.505 (12,83)

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

AVAILABLE HARDWARE

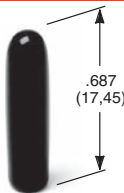
Cap



PART NO.
896801000 WHITE
896802000 BLACK
896803000 RED

Material: Polyethylene
 Finish: Matte

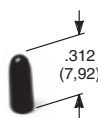
Cap



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

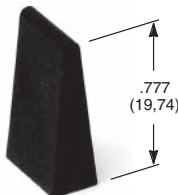
L41 Lever handle



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



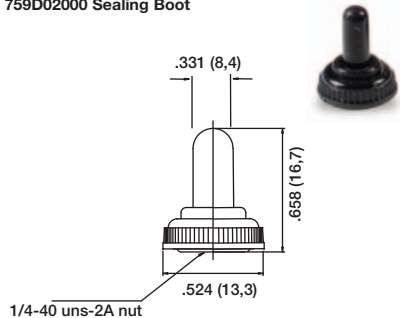
PART NO.
530100000

Available in loose pieces.

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

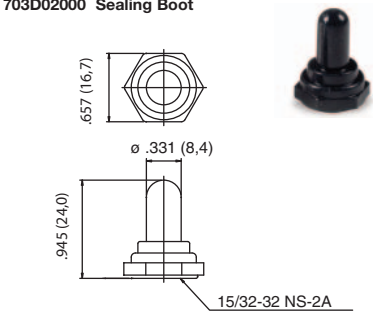
Other colors available, consult Customer Service Center.

759D02000 Sealing Boot



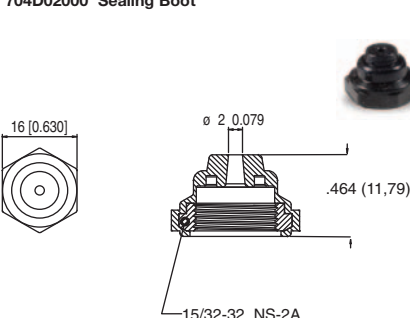
NOTE: For use with S actuator style when combined with D, H, H3, Y, and Y4 bushings

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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