UL E222871 | RoHS COMPLIANT

Specifications

Electrical Ratings	5A @ 120VAC, 28VDC 2A @ 250VAC See Contact Options
Electrical Life	40,000 cycles typical
Contact Resistance	≤10mΩ initial @ 2-4VDC, 100mA

Dielectric Strength	1500Vrms min
Insulation Resistance	>1000MΩ min
Operating Temperature	-40ºC to 85ºC
Storage Temperature	-40ºC to 85ºC

Materials

Actuator	Brass, Chrome Plated
Housing	Diallyl Phthalate (DAP)
Cover	Stainless Steel
Bushing	Brass, Nickel Plated
Bracket	Brass, Tin Plated
Contacts	Copper Alloy, Silver or Gold Plated
Terminals	Copper Alloy, Silver or Gold Plated

Features

- Wide variety of applications from consumer electronics to commercial
- Standard epoxy sealed terminations
- Gold contacts available for low power applications
- Available support brackets for greater stability
- Up to four poles with seven fuctions available
- Anti-rotation feature on flat toggles
- High torque bushing preventing separation from frame during installation
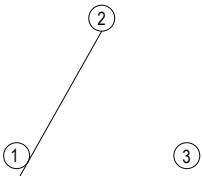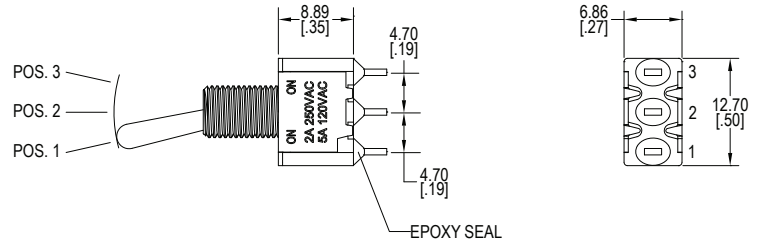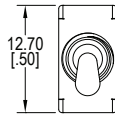- Wide variety of terminal options

Dimensions are shown for reference purposes only.
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ANT

Miniature Toggle

Ordering Information

1. Series	ANT	2	3	T	E	B	Q	E	
ANT									

2. Number of Poles
1 = SPDT
2 = DPDT
3 = 3PDT
4 = 4PDT

3. Switch Function
1 = ON-NONE-ON
2 = ON-NONE-(ON)
3 = ON-OFF-ON
4 = (ON)-OFF-(ON)
5 = ON-OFF-(ON)
6 = ON-ON-ON **See 3-way wiring section for details

4. Actuator
T = 5.08mm, standard
S = 10.67mm, standard
X = 13.97mm, standard
V = 16.26mm, standard
W = 21.34mm, standard
Y = 6.35mm, flat toggle *only available with AR1, AR2, AN1, AN2 bushing
F = 11.43mm, flat toggle *only available with AR1, AR2, AN1, AN2 bushing
G = 21.33mm, flat toggle *only available with AR1, AR2, AN1, AN2 bushing
K = 13.49mm, flat toggle *only available with AR1, AR2, AN1, AN2 bushing
Z = 12.37mm, large toggle *only available with BZ, BZR bushing
Z1 = 17.45mm, large toggle *only available with BZ, BZR bushing
LK = 16.10mm / 17.88mm, locking toggle, round top *only available with K, K1 bushing
LK1 = 16.81mm / 18.59mm, locking toggle, flat top *only available with K, K1 bushing

5. Bushing
E / E1 = 8.89mm, ¼-40NS / non-threaded, keyway
F / F1 = 7.11mm, ¼-40NS / non-threaded, keyway
J = 8.89mm, ¼-40NS, flat
W = 8.90mm, M6P-0.75 (metric) keyway
H = 8.00mm, high torque, ¼-40NS, keyway
G = 7.52mm, high tourque, ¼-40NS, flat
AR1 / AR2 = 7.55mm, anti-rotation, ¼-40NS / non-threaded, keyway
AN1 / AN2 = 7.55mm, anti-rotation, ¼-40NS / non-threaded, flat
BZ = 11.38mm, 15/32-32NS, keyway
BZR = 11.38mm, 15/32-32NS, keyway with support insert
L = 7.47mm, ¼-40NS, keyway, splash proof
K / K1 = 8.00mm, ¼-40NS, non-threaded, keyway
** See actuator option section for bushing availability with various actuators

6. Terminals
B = Solder Lug   ** Wire wrap terminals available in various lengths, contact factory
C = PC Pin
D = Quick Connect
H = Horizontal Mount, right angle PC pin, *HS = Snap-In*
V = Vertical Mount, right angle PC pin, *VS = Snap-In*
W = Wire Wrap**
S20 or S25 = PC pin with support bracket, *V20 or V25 = Snap-In support bracket*
S35 or S40 = PC pin with support bracket, *V35 or V40 = Snap-In support bracket*

7. Contacts
Q = Silver plated
R = Gold plated
G = Gold over Silver plated

8. Epoxy Seal
E = Epoxy Seal

9. Actuator Cover
Blank = No cover
S = for S, T, X, V & W actuators
E = for E, F, J, & G bushings
Z = for BZ & BZR bushings

Actuator Cover Colors
1 = White
2 = Black
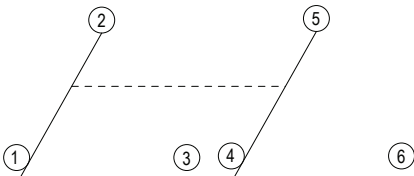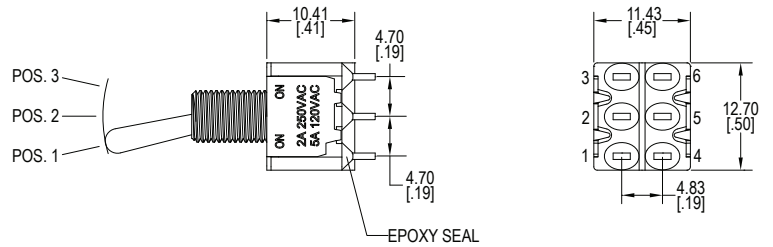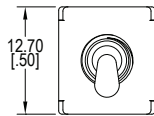3 = Red
** Color choices only available with S toggle cover

Switch Function

SPDT

POS. 3
POS. 2
POS. 1

8.89 [.35]
4.70 [.19]
4.70 [.19]
6.86 [.27]
12.70 [.50]

ON
2A 250VAC
5A 120VAC
ON

3
2
1

EPOXY SEAL

Function	Toggle Position		
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
Terminals	2-3	-	2-1

2

1   3

DPDT

POS. 3
POS. 2
POS. 1

10.41 [.41]
4.70 [.19]
4.70 [.19]
11.43 [.45]
12.70 [.50]
4.83 [.19]

ON
2A 250VAC
5A 120VAC
ON

3   6
2   5
1   4

EPOXY SEAL

Function	Toggle Position		
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
Terminals	2-3	-	2-1
6	ON	ON	ON
Terminals	2-3 5-6	2-3 5-4	2-1 5-4
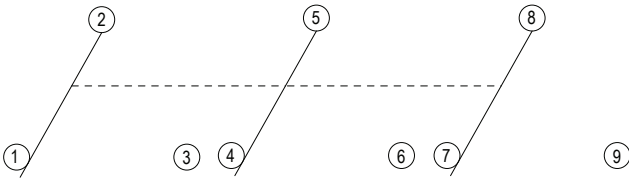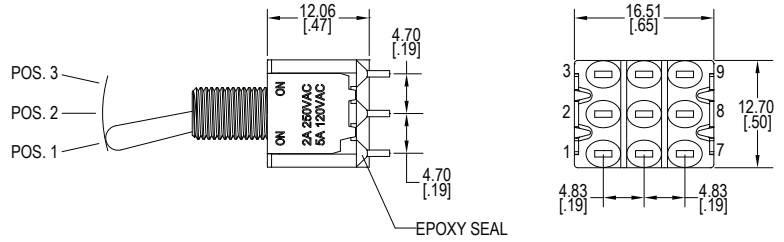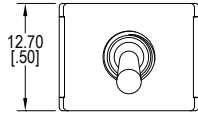
2   5

1   3 4   6

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Switch Function

3PDT

POS. 3
POS. 2
POS. 1

12.06 [.47]
4.70 [.19]
ON
ON
2A 250VAC
5A 120VAC
4.70 [.19]
EPOXY SEAL

16.51 [.65]
12.70 [.50]
4.83 [.19]
4.83 [.19]

12.70 [.50]

Function	Toggle Position		
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
Terminals	2-3 5-6 8-9	-	2-1 5-4 8-7

4PDT

POS. 3
POS. 2
POS. 1

12.06 [.47]
4.70 [.19]
ON
ON
2A 250VAC
5A 120VAC
4.70 [.19]
EPOXY SEAL

21.59 [.85]
12.70 [.50]
4.83 TYP [.19]

12.70 [.50]

Function	Toggle Position		
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
Terminals	2-3 5-6 8-9 11-12	-	2-1 5-4 8-7 11--10
6	ON	ON	ON
Terminals	2-3 5-6 8-9 11-12	2-3 5-4 8-9 11-10	2-1 5-4 8-7 11-10

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Actuator Options

Actuator lengths shown with E bushing, subtract 1.78mm for F/F1 bushing, subtract 0.51mm for M bushing
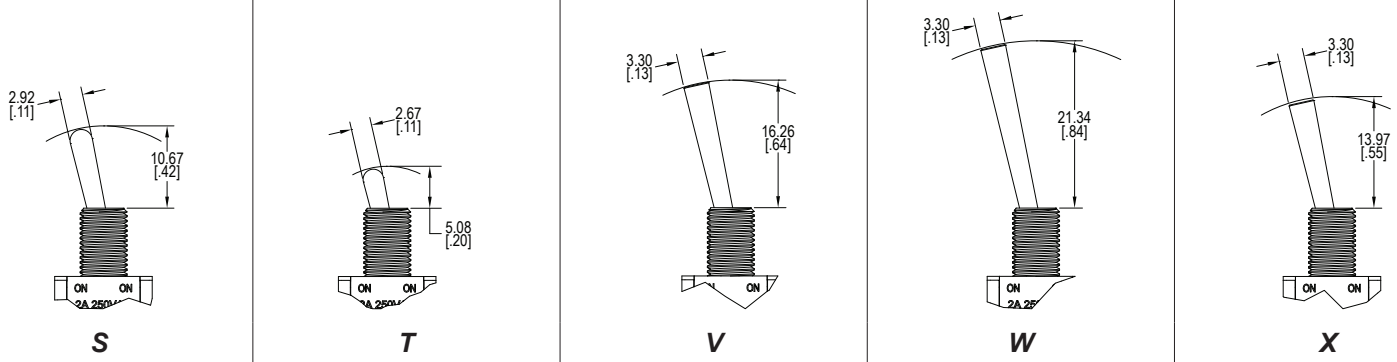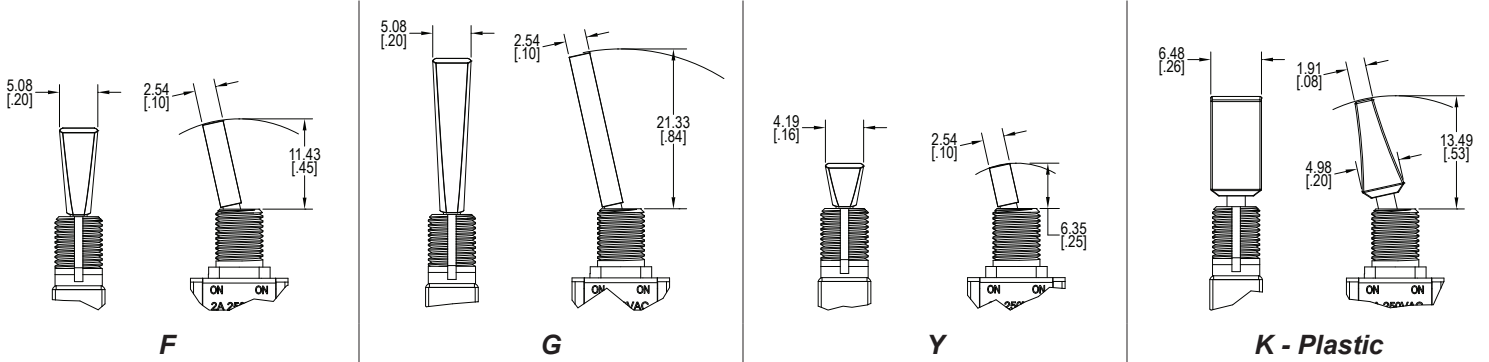
S	**T**	**V**	**W**	**X**

2.92 [.11] — 10.67 [.42] (S)

2.67 [.11] — 5.08 [.20] (T)

3.30 [.13] — 16.26 [.64] (V)

3.30 [.13] — 21.34 [.84] (W)

3.30 [.13] — 13.97 [.55] (X)

Below Actuators only available with AR1, AR2 & AN1/AN2 bushing

F	**G**	**Y**	**K - Plastic**

5.08 [.20] / 2.54 [.10] — 11.43 [.45] (F)

5.08 [.20] / 2.54 [.10] — 21.33 [.84] (G)

4.19 [.16] / 2.54 [.10] — 6.35 [.25] (Y)

6.48 [.26] / 1.91 [.08] — 4.98 [.20] — 13.49 [.53] (K - Plastic)

Below Actuators only available with BZ & BZR bushing

Z	**Z1**

1.91 [.08] — 1.04 [.04] (Z)

12.37 [.49] — 15/32 - 32 UNS-2A — 11.38 [.45] — 0.51 [.02] (Z)

1.91 [.08] — 1.04 [.04] (Z1)

17.45 [.69] — 15/32 - 32 UNS-2A — 11.38 [.45] — 0.51 [.02] (Z1)

Below Actuators only available with K & K1 Bushing. LK & LK1 are not available with momentary functions.

LK	**LK1**

5.44 [.21] — 17.88 [.70] UNLOCKED — 16.10 [.63] LOCKED — 6.60 [.26] — 1.40 [.06] (LK)

5.44 [.21] — 18.59 [.73] UNLOCKED — 16.81 [.66] LOCKED — 6.60 [.26] — 1.40 [.06] (LK1)

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Bushing Options
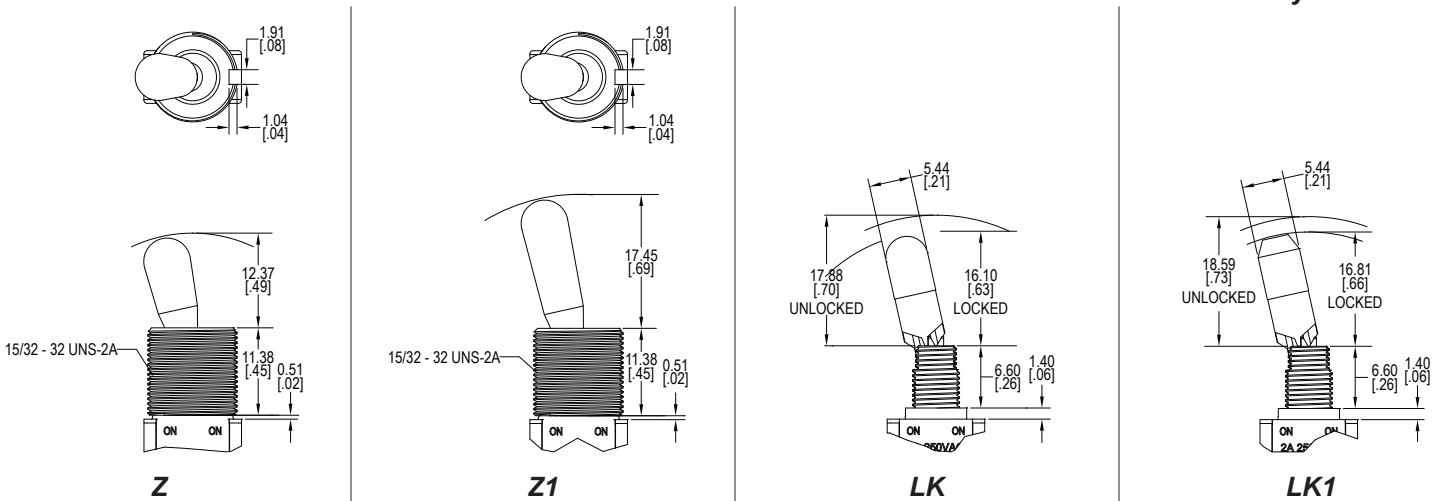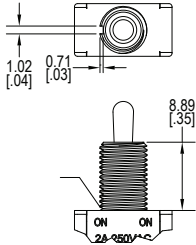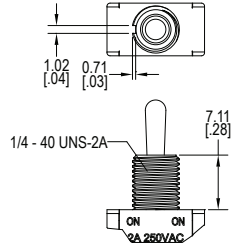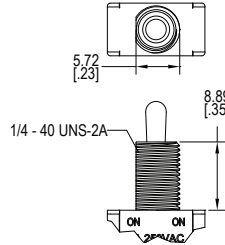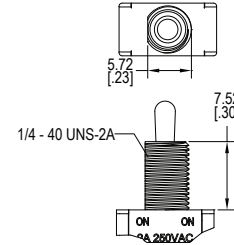
1.02 [.04] 0.71 [.03] 8.89 [.35] 2A 250VAC ON ON	1.02 [.04] 0.71 [.03] 7.11 [.28] 1/4 - 40 UNS-2A ON ON 2A 250VAC	5.72 [.23] 8.89 [.35] 1/4 - 40 UNS-2A ON ON 250VAC	5.72 [.23] 7.52 [.30] 1/4 - 40 UNS-2A ON ON 2A 250VAC	1.02 [.04] Ø7.98 [Ø0.31] 0.71 [.03] 8.00 [.31] 1/4 - 40 UNS-2A 0.51 [.02] 1.02 [.04] ON ON
E - Threaded **E1 - Non-Treaded**	**F - Threaded** **F1 - Non-Threaded**	**J - Threaded**	**G - Threaded** **High Torque**	**H - Threaded** **High Torque**

Ø11.81 [Ø0.46]
O-RING GROOVE
5.72 [.23]
1/4 - 40 UNS-2A
7.47 [.29]
0.51 [.02]
1.52 [.06]
ON ON

L - Threaded
Splash Proof

Ø18.00 [Ø0.71]
FLAT

11.70 [.46]
3.00 [.12]
0.51 [.02]
11.50 [.45]
6.09 [.24]
CIT
14.77 [.58]
15/32-32 UNS-2A

Ø13.00 [Ø0.51]
11.85 [.47]

LZ - Threaded
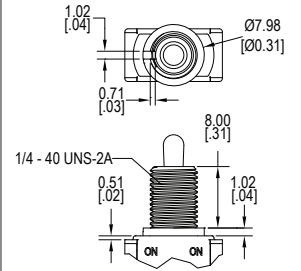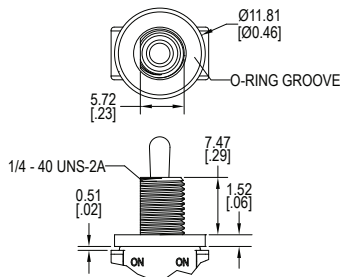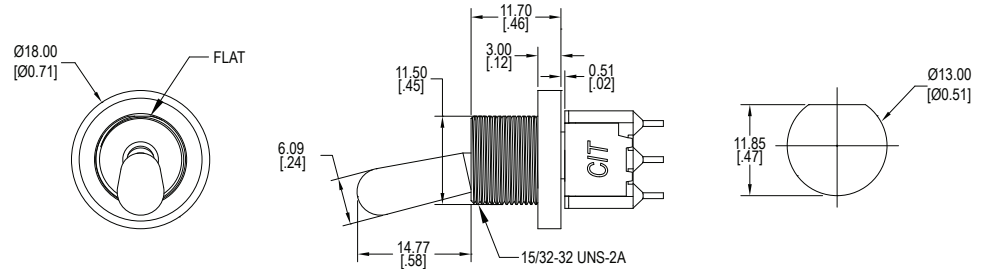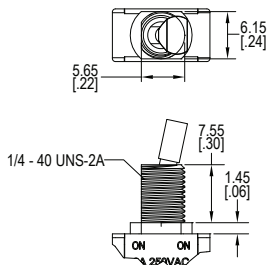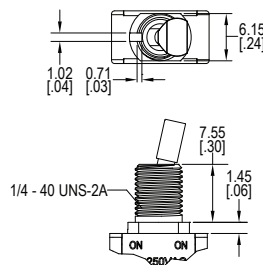
6.15 [.24] 5.65 [.22] 7.55 [.30] 1/4 - 40 UNS-2A 1.45 [.06] ON ON 250VAC	6.15 [.24] 1.02 [.04] 0.71 [.03] 7.55 [.30] 1/4 - 40 UNS-2A 1.45 [.06] ON ON 250V	1.00 [.04] 0.60 [.02] 8.90 [.35] M6 x 0.75 ON ON 250V
AN1 - Threaded **Anti-Rotation**	**AR1 - Threaded** **Anti-Rotation**	**W - Threaded** **Metric**
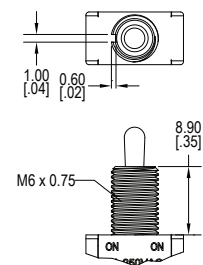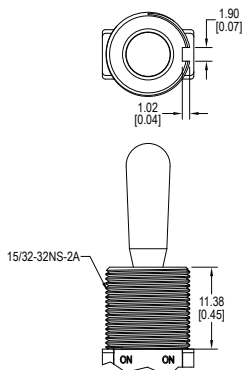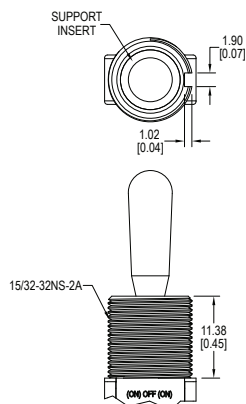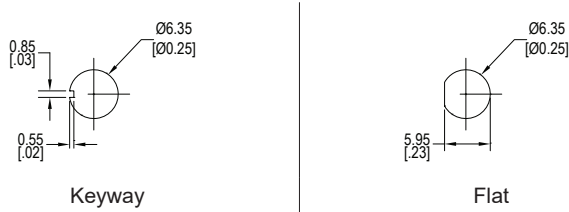
1.90 [0.07] 1.02 [.04] 15/32-32NS-2A 11.38 [.45] ON ON	SUPPORT INSERT 1.90 [0.07] 1.02 [.04] 15/32-32NS-2A 11.38 [.45] (ON) OFF (ON)	
BZ - Keyway	**BZR - Keyway with Support Insert**	

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Panel Cutouts

Keyway | Flat

**1/4 Inch Bushing
without Locking Ring**

Ø0.85 [.03]
0.55 [.02]
Ø6.35 [Ø0.25]
5.95 [.23]
Ø6.35 [Ø0.25]

**1/4 Inch Bushing
with Standard Locking Ring**

Ø2.39 [Ø0.09]
6.10 [.24]
Ø6.35 [Ø0.25]
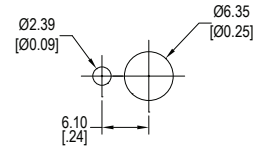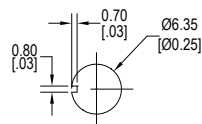
**Metric Bushing
without Locking Ring**

0.70 [.03]
0.80 [.03]
Ø6.35 [Ø0.25]
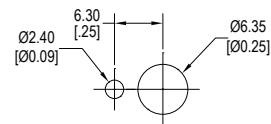
**Metric Bushing
with Locking Ring**
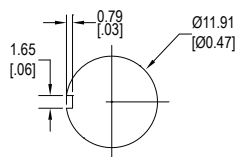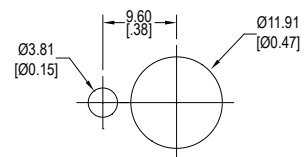
6.30 [.25]
Ø2.40 [Ø0.09]
Ø6.35 [Ø0.25]

**15/32 Inch Bushing
without Locking Ring**

0.79 [.03]
1.65 [.06]
Ø11.91 [Ø0.47]

**15/32 Inch Bushing
with Standard Locking Ring**

9.60 [.38]
Ø3.81 [Ø0.15]
Ø11.91 [Ø0.47]

Terminal Options

3.94 [.16]
2.42 [.10]
0.76 [.03]
4.70 TYP [.19]
1.19 [.05]
2.03 [.08]
4.83 TYP [.19]

B - Solder Lug

0.76 [.03]
4.70 [.19]
4.70 [.19]
4.80 [.19]
6.35 [.25]
1.27 [.05]
4.83 TYP [.19]

C - PC Pin

4.80 [.19]
0.76 [.03]
4.70 [.19]
4.70 [.19]
6.35 [.25]
1.57 [.06]
4.83 TYP [.19]

D - Quick Connect

0.76 [.03]
4.70 [.19]
4.70 [.19]
A
1.27 [.05]
4.83 TYP [.19]
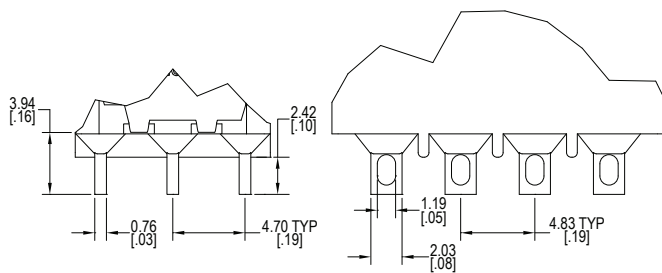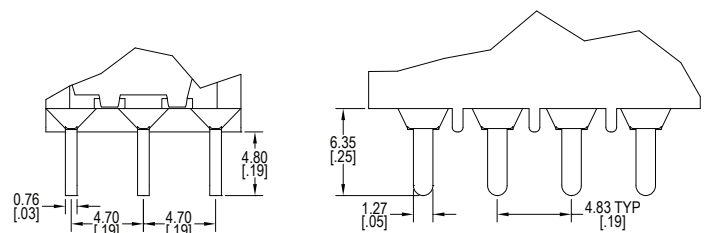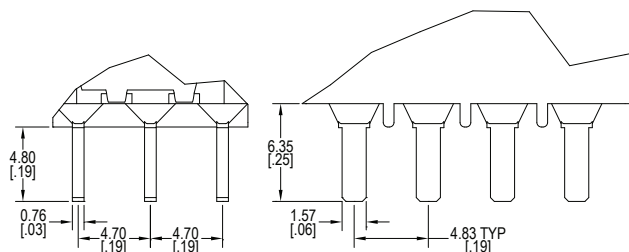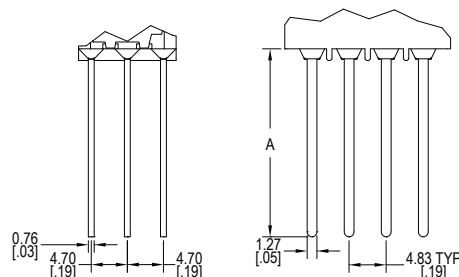
Terminal Length	
Option Code	"A" Dimension
W1	18.70
W2	24.20
W3	10.55
W4	26.97

W - Wire Wrap

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Terminal Options
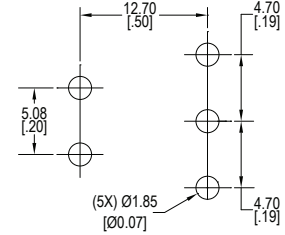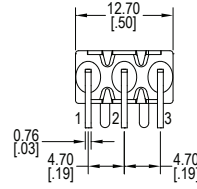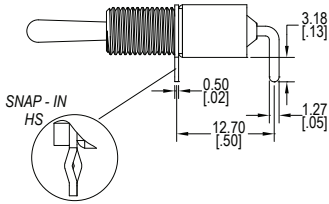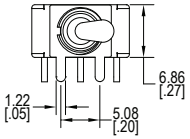
H (HS - Snap-in) = Horizontal mount, right angle PC pins, single pole
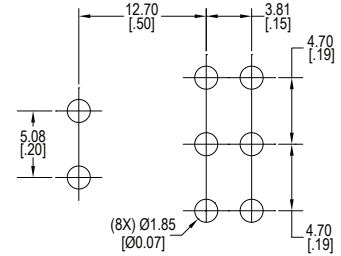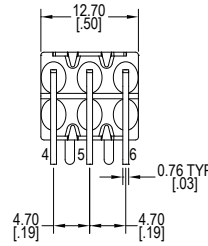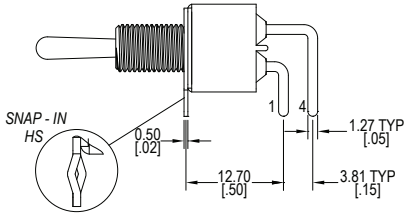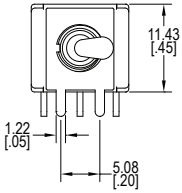
H (HS - Snap-in) = Horizontal mount, right angle PC pins, double pole
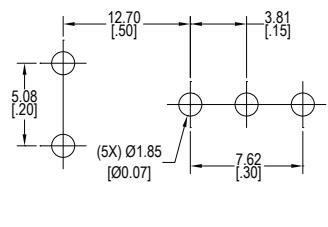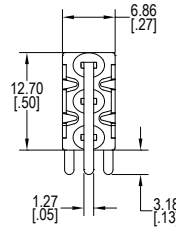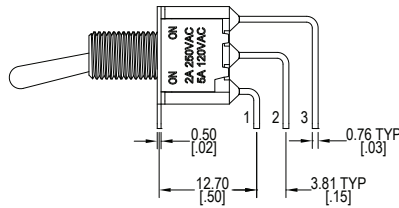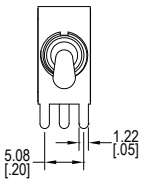
V (VS - Snap-in) = Vertical mount, right angle PC pins, single pole
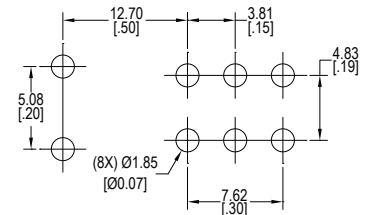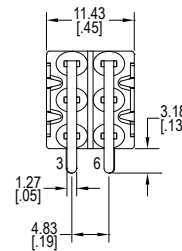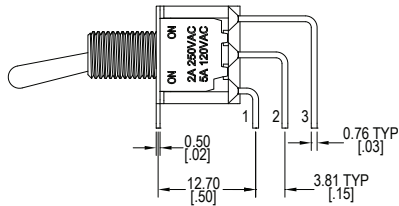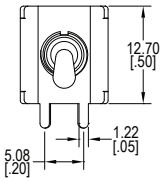
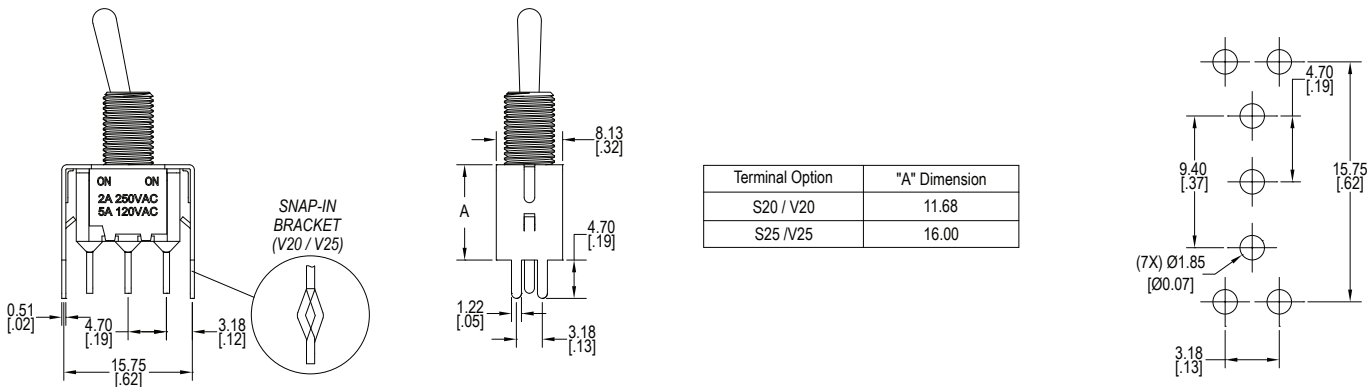**V (VS - Snap-in) = Vertical mount, right angle PC pins, double pole**

Terminal Options
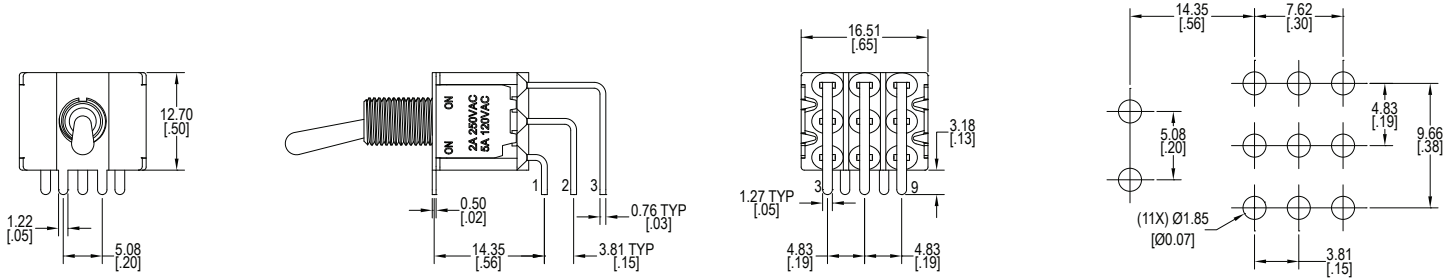
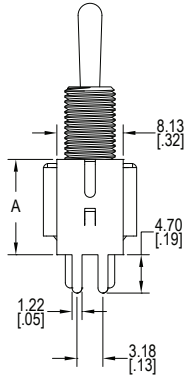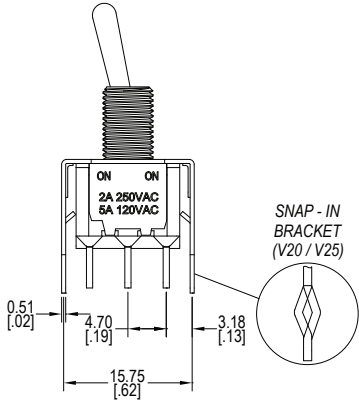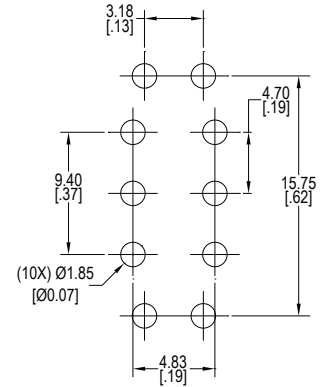**V (VS - Snap-in) = Vertical mount, right angle PC pins, three pole**
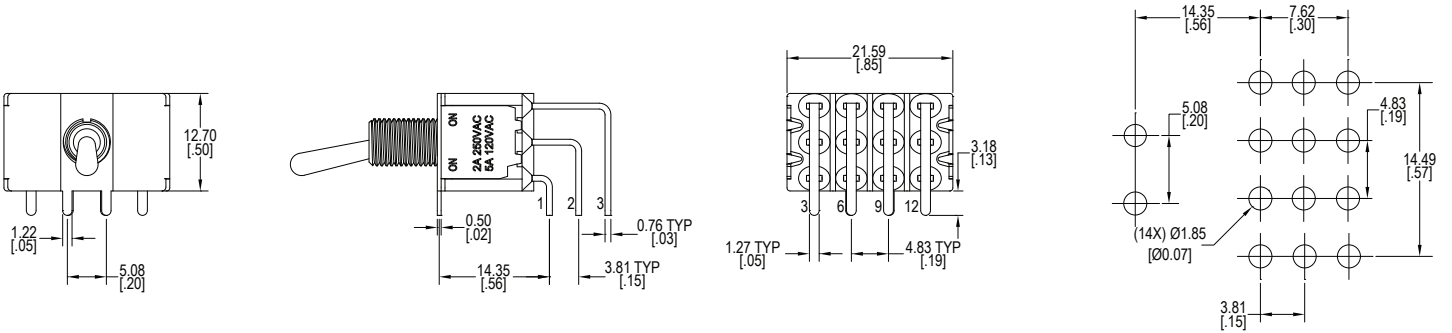
V (VS - Snap-in) = Vertical mount, right angle PC pins, four pole

Terminal Option	"A" Dimension
S20 / V20	11.68
S25 /V25	16.00

S20/S25 (V20/V25 - Snap-in) = PC pins with support bracket, single pole

Dimensions are shown for reference purposes only.
Specifications and availability subject to change without notice.
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Terminal Options

Terminal Option	"A" Dimension
S20 / V20	11.68
S20 / V25	16.00

S20/S25 (V20/V25 - Snap-in) = PC pins with support bracket, double pole
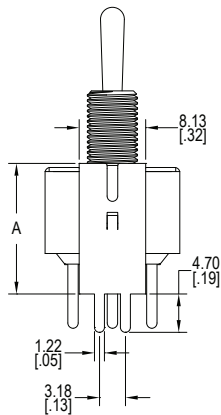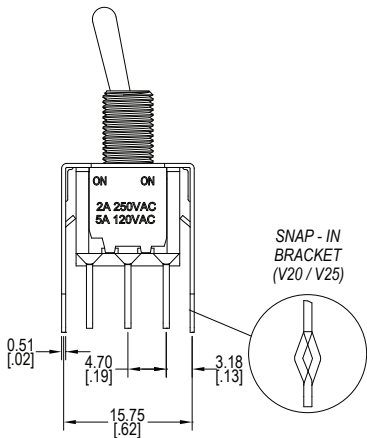
Terminal Option	"A" Dimension
S25 / V25	16.00
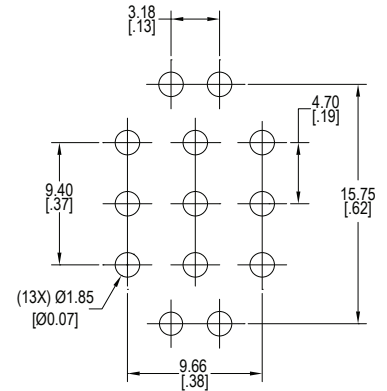
S20/S25 (V20/V25 - Snap-in) = PC pins with support bracket, three pole
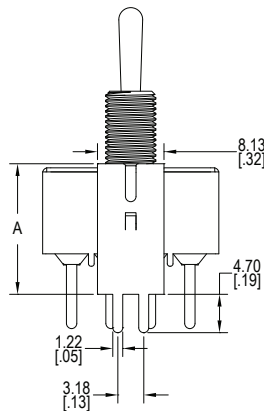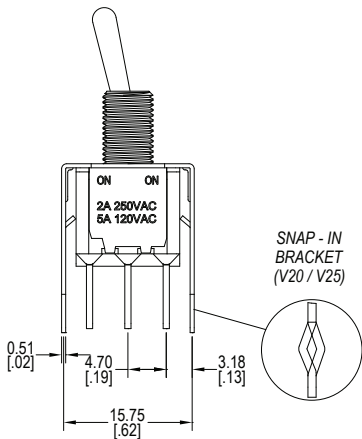
Terminal Options	"A" Dimension
S25 / V25	16.00
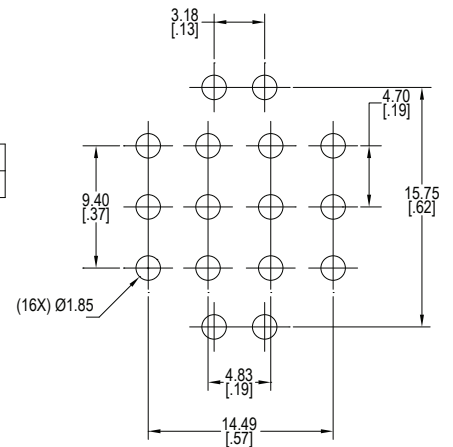
S20/S25 (V20/V25 - Snap-in) = PC pins with support bracket, four pole

Dimensions are shown for reference purposes only.
Specifications and availability subject to change without notice.
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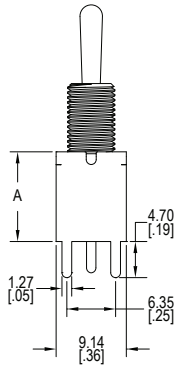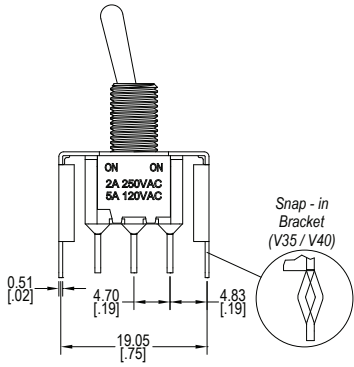
Terminal Options

Terminal Option	"A" Dimension
S35 / V35	11.68
S40 / V40	16.00
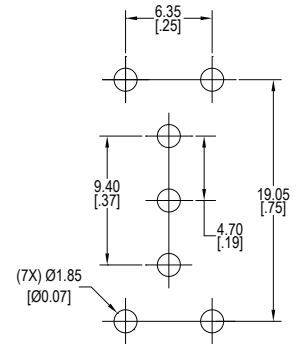
S35 (V35 - Snap-in) = PC pins with support bracket, single pole
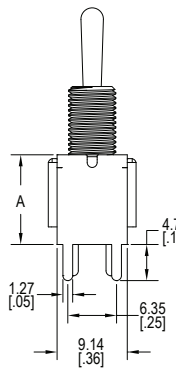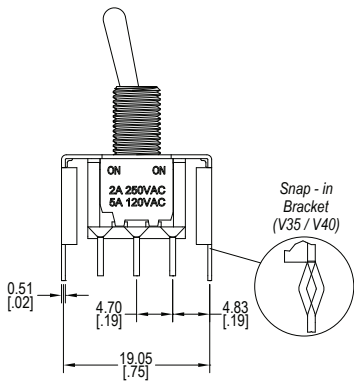
Terminal Option	"A" Dimension
S35 / V35	11.68
S40 / V40	16.00
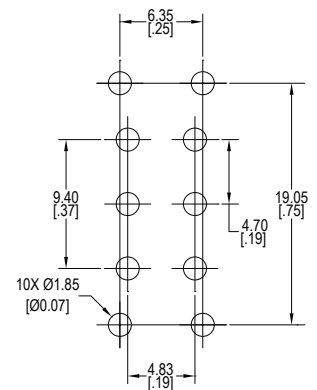
S35 (V35 - Snap-in) = PC pins with support bracket, double pole
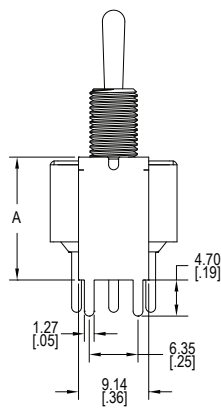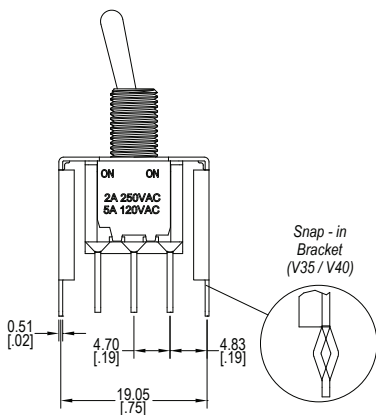
Terminal Option	"A" Dimension
S40 / V40	16.00

S40 (V40 - Snap-in) = PC pins with support bracket, three pole

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CIT Relay & Switch
ANT
Miniature Toggle

Terminal Options

Terminal Option	"A" Dimension
S40 / V40	16.00

0.51 [.02]
4.70 [.19]
4.83 [.19]
19.05 [.75]

Snap - in Bracket (V35 / V40)

ON   ON
2A 250VAC
5A 120VAC

A

4.70 [.19]
1.27 [.05]
6.35 [.25]
9.14 [.36]

6.35 [.25]
9.40 [.37]
19.05 [.75]
4.70 [.19]
16X Ø1.85 [Ø0.07]
4.83 [.19]
14.49 [.57]

S40 (V40 - Snap-in) = PC pins with support bracket, four pole

Contact Options

Designator	Contact Material	Terminal Material	Electrical Ratings
Q	Silver Plating	Silver Plating	5A @ 120VAC, 28VDC; 2A @ 250VAC
R	Gold over Nickel Plating	Gold over Nickel Plating	0.4VA max @ 20VAC or VDC max
G	Gold over Silver Plating	Gold over Silver Plateing	0.4VA max @ 20VAC or VDC max or 5A @ 120VAC, 28VDC; 2A @ 250VAC

Three Way Wiring Diagram

	Position 1	Postition 2	Position 3

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Cap Options

Ø4.20 [Ø0.17]
Ø12.00 [.47]
2.32 [.09]
10.90 [.43]
14.40 [.57]
1/4-40 UNS - 2B
O-ring Groove
3.50 [.14]
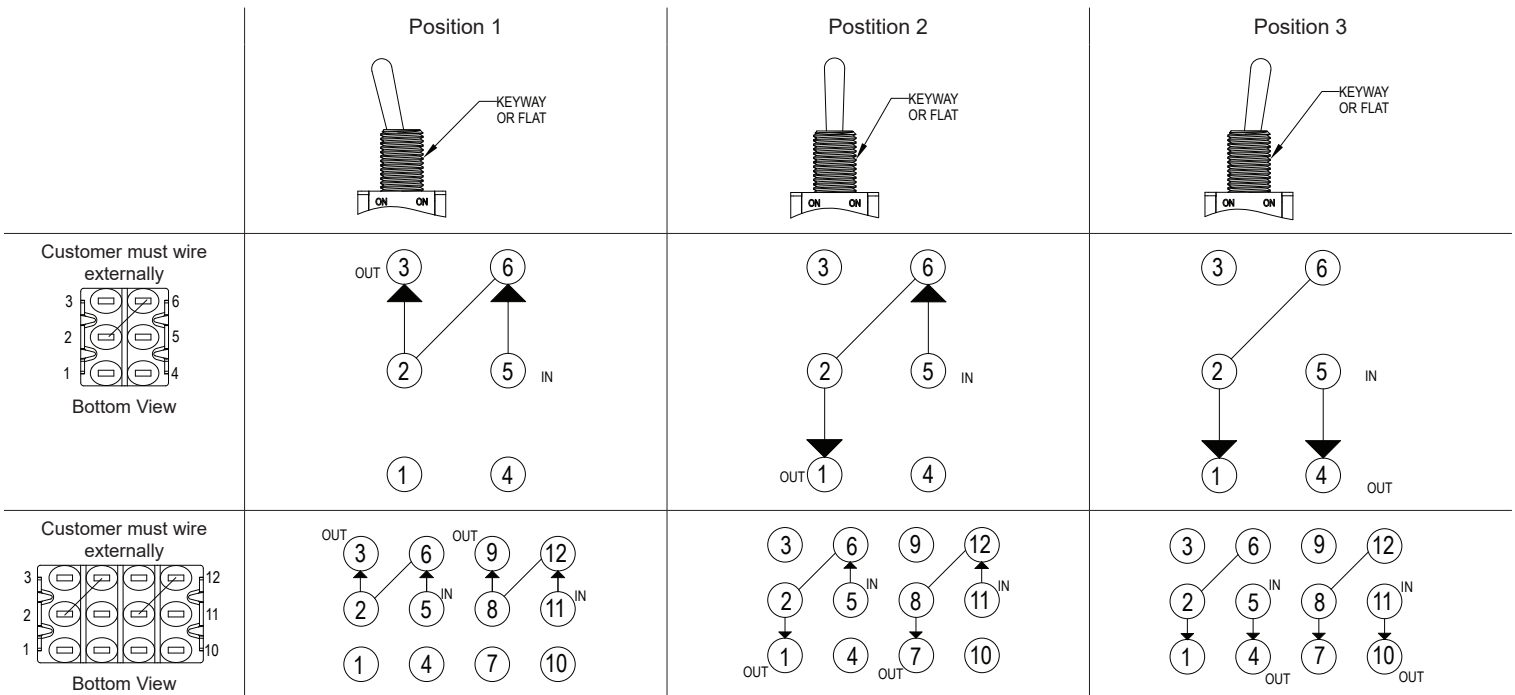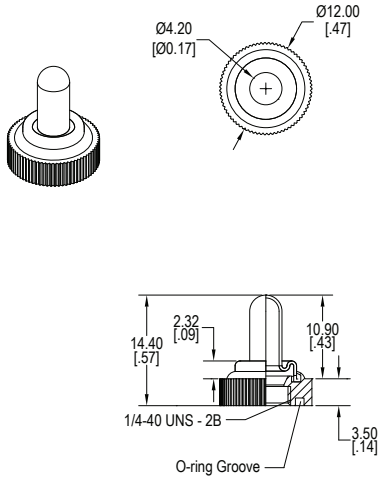
Sealed Boot E
Knurled Nut

18.30 [.72]
16.00 [.63]
Ø8.25 [Ø0.32]
24.50 [.96]
14.90 [.59]
1.49 [.06]
5.60 [.22]
15/32-32 UNS - 2B
Sealing Flange
2.51 [.10]
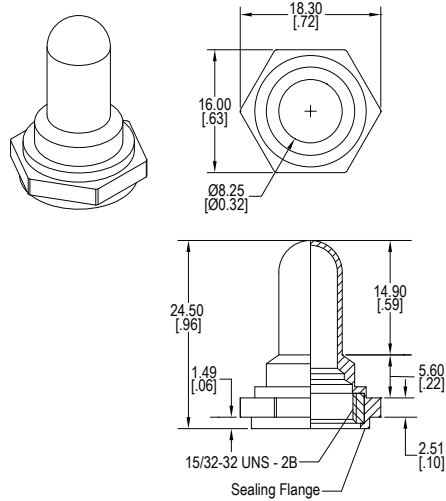
Sealed Boot Z3
Rubber Coated

19.35 [.76]
17.00 [.67]
Ø7.50 [Ø0.30]
24.75 [.97]
17.25 [.68]
3.62 [.14]
15/32-32 UNS - 2B
Rubber Gasket Seat
3.88 [.15]
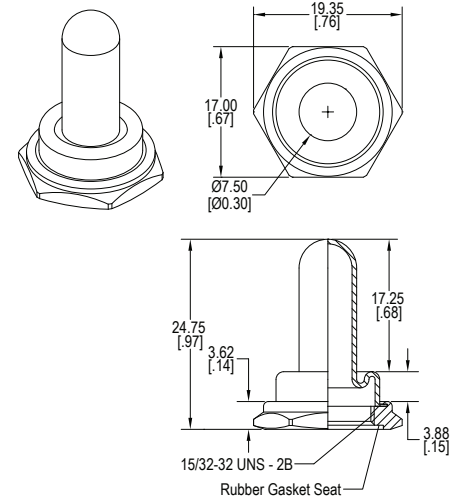
Sealed Boot Z4
Plain Hex Nut

Hardware

15/32 - 32 Hardware

16.13 [.64]
14.00 [.55]
15/32 - 32 UNS-2B
1.97 [.08]

Hex Nut

Ø12.50 [Ø0.49]
Ø15.76 [Ø0.62]
0.50 [.02]

Lock Washer

Ø12.05 [Ø0.47]
1.60 [.06]
Ø18.34 [Ø0.72]
3.05 [.12]
0.70 [.03]
2.36 [.09]

Locking Ring-Keyway

Ø14.28 [Ø0.56]
Ø10.00 [Ø0.39]
3.56 [.14]
2.85 [.11]
Ø13.55 [.53]
3.41 [.13]

Knurled Nut

Ø16.00 [Ø0.63]
14.12 [.56]
Ø8.15 [Ø0.32]
0.75 [.03]
4.33 [.17]
Ø12.95 [.51]
3.83 [.15]

Dress Nut

Hardware
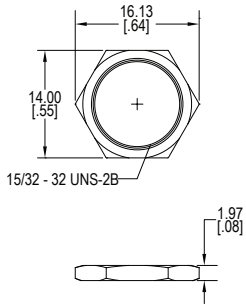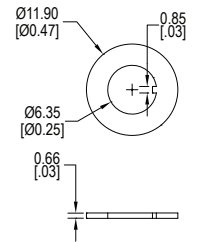
1/4 - 40 Hardware
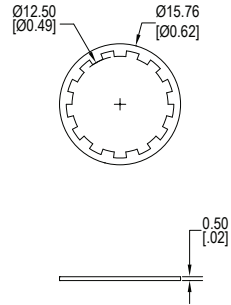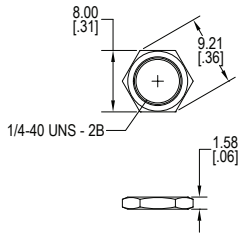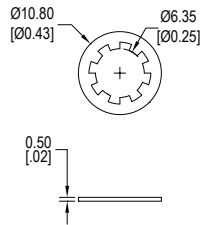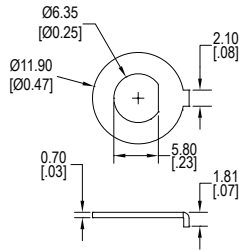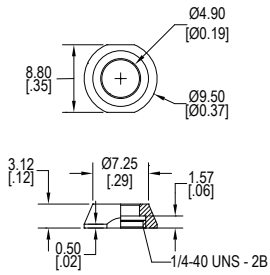
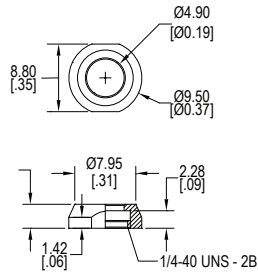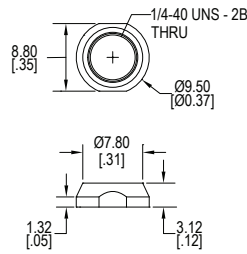|				
Hex Nut	**Lock Washer**	**Locking Ring-Flat**	**Locking Ring-Keyway**	**Washer-Keyway**
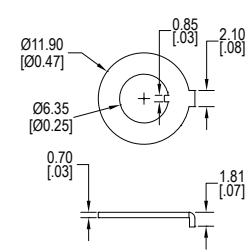
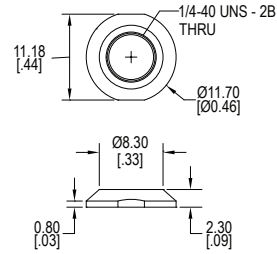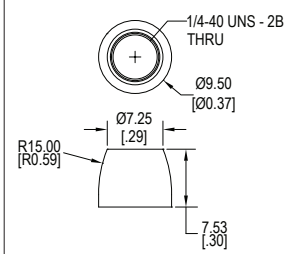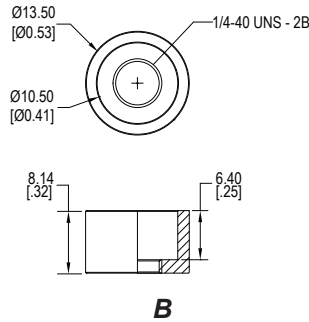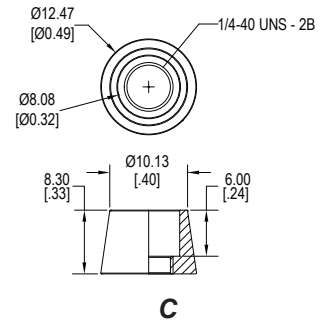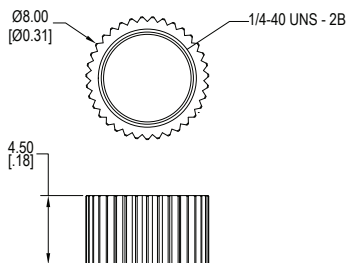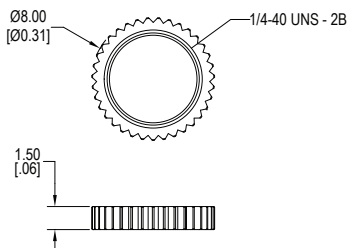|				
Dress Nut A	**Dress Nut B**	**Dress Nut C**	**Dress Nut D**	**Dress Nut E**

Collars
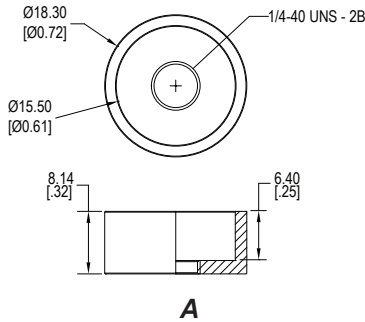
A	**B**	**C**

Knurled Nuts

Toggle Cap "S"