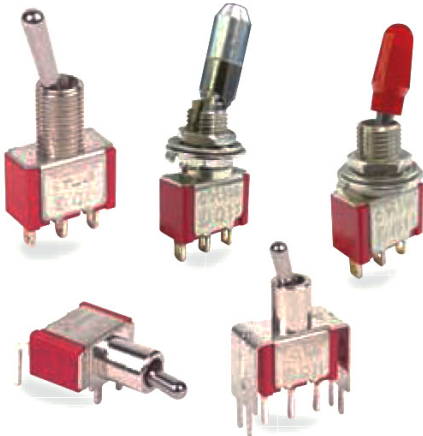


Minature Toggle Switches



RoHS
Compliant



Specifications:

| | |
|-----------------------|---|
| Mechanical Life | : 40,000 make-and-break cycles |
| Contact Resistance | : 10m Ω max. initial @ 2-4V DC 100mA for both silver and gold plated contacts |
| Insulation Resistance | : 1,000M Ω min. |
| Dielectric Strength | : 1,000V rms min. @ sea level |
| Operating Temperature | : -30°C to +85°C |

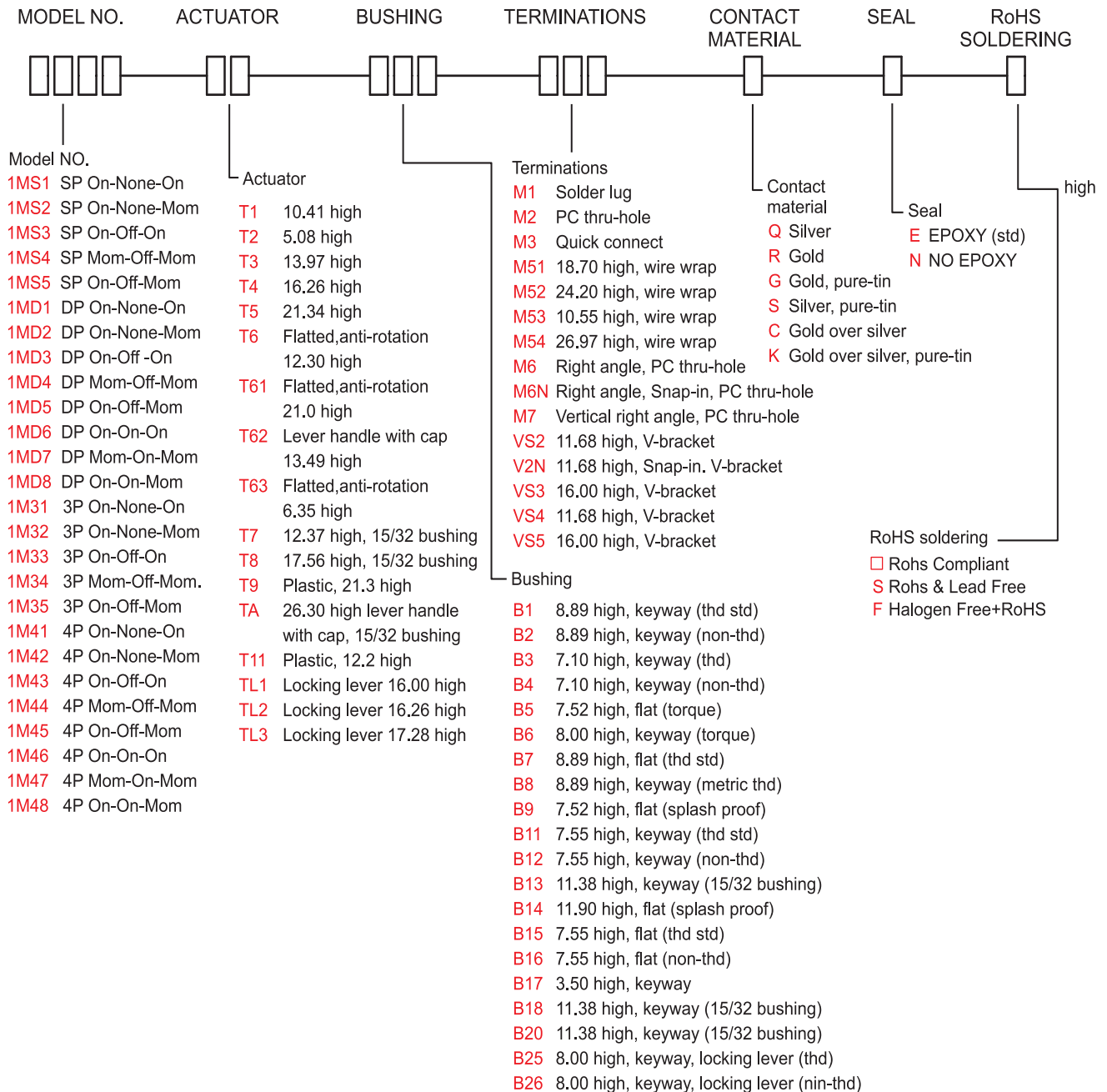
Materials:

| | |
|---------------------|--------------------------------|
| Case | : Diallyl phthalate (DAP) |
| Actuator | : Brass,chrome plated |
| Bushing | : Brass, nickel plated |
| Housing | : Stainless steel |
| Switch Support | : Brass, tin plated |
| Contact / Terminals | : Brass, Silver or gold plated |

Minature Toggle Switches



How to Order:



Minature Toggle Switches



Switch Function:

| No. Poles | UL/CSA Model No. | Model No. | Switch Function | | | Connected Terminals / Schematic | | |
|-----------|------------------|-----------|-----------------|-------|-------|---------------------------------|-------|----------------------|
| | | | Pos.1 | Pos.2 | Pos.3 | Pos.1 | Pos.2 | Pos.3 |
| | | | | | | | | |
| SP | Q1111 | 1MS1 | ON | NONE | ON | 2-3 | N/A | 2-1 |
| | Q1112 | 1MS2 | ON | NONE | MOM | | OPEN | |
| | Q1113 | 1MS3 | ON | OFF | ON | | | |
| | Q1114 | 1MS4 | MOM | OFF | MOM | | | |
| | Q1115 | 1MS5 | ON | OFF | MOM | | | |
| DP | Q1121 | 1MD1 | ON | NONE | ON | 2-3, 5-6 | N/A | 2-1, 5-4 |
| | Q1122 | 1MD2 | ON | NONE | MOM | | OPEN | |
| | Q1123 | 1MD3 | ON | OFF | ON | | | |
| | Q1124 | 1MD4 | MOM | OFF | MOM | | | |
| | Q1125 | 1MD5 | ON | OFF | MOM | | | |
| | Q1126 | 1MD6 | ON | ON | ON | | | |
| | * Q1127 | 1MD7 | MOM | ON | MOM | | | |
| | * Q1128 | 1MD8 | ON | ON | MOM | | | |
| 3P | Q1131 | 1M31 | ON | NONE | ON | 2-3, 5-6, 8-9 | N/A | 2-1, 5-4, 8-7 |
| | Q1132 | 1M32 | ON | NONE | MOM | | OPEN | |
| | Q1133 | 1M33 | ON | OFF | ON | | | |
| | Q1134 | 1M34 | MOM | OFF | MOM | | | |
| | Q1135 | 1M35 | ON | OFF | MOM | | | |
| 4P | Q1141 | 1M41 | ON | NONE | ON | 2-3, 5-6, 8-9, 11-12 | N/A | 2-1, 5-4, 8-7, 11-10 |
| | Q1142 | 1M42 | ON | NONE | MOM | | OPEN | |
| | Q1143 | 1M43 | ON | OFF | ON | | | |
| | Q1144 | 1M44 | MOM | OFF | MOM | | | |
| | Q1145 | 1M45 | ON | OFF | MOM | | | |
| | Q1146 | 1M46 | ON | ON | ON | | | |
| | * Q1147 | 1M47 | MOM | ON | MOM | | | |
| | * Q1148 | 1M48 | ON | ON | MOM | | | |

MOM = Momentary

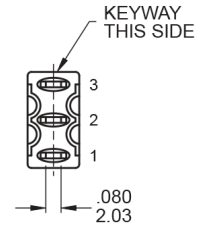
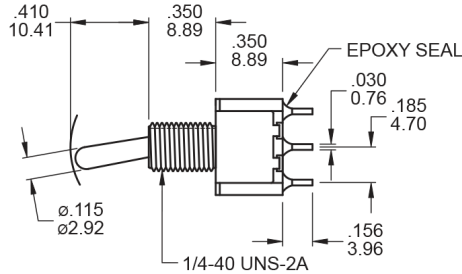
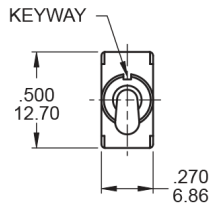
* Please check the availability in advance before order



Minature Toggle Switches

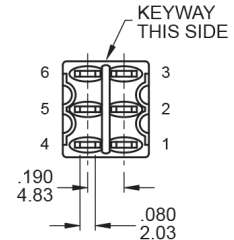
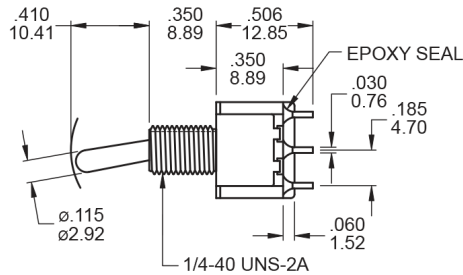
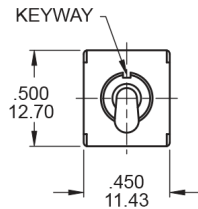


Pole Options:



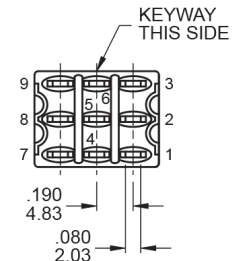
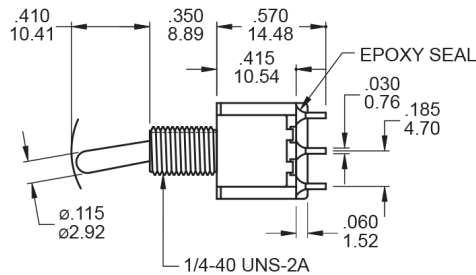
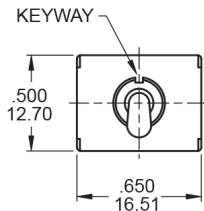
SPDT

Part No. Shown : 1MS1T1B1M1QE



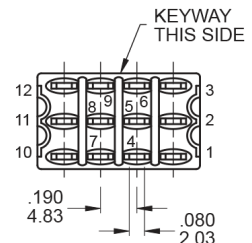
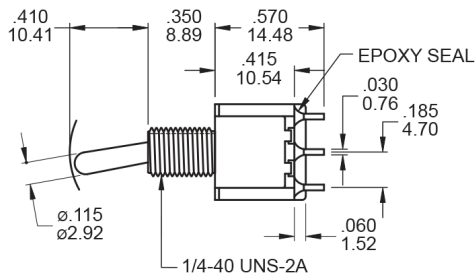
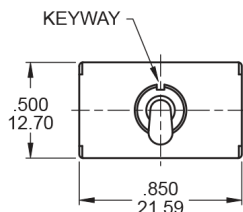
DPDT

Part No. Shown : 1MD1T1B1M1QE



3PDT

Part No. Shown : 1M31T1B1M1QE



4PDT

Part No. Shown : 1M41T1B1M1QE

www.element14.com
www.farnell.com
www.newark.com



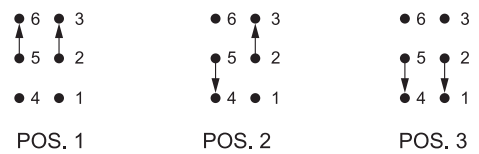
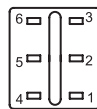
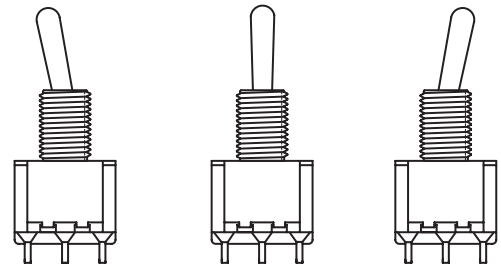
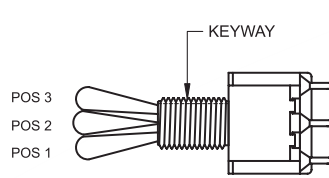
Minature Toggle Switches



3-Way Switch:

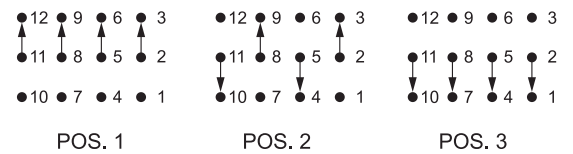
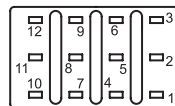
SINGLE POLE, 3 POSITION

| Model No. | POS 1 | POS 2 | POS 3 |
|-------------|---------|---------|---------|
| 1MD6 | ON | ON | ON |
| Term. Comm. | 2-3,5-6 | 2-3,5-4 | 2-1,5-4 |



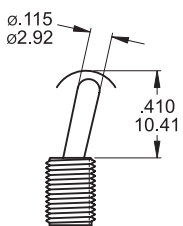
DOUBLE POLE, 3 POSITION

| Model No. | POS 1 | POS 2 | POS 3 |
|-------------|----------------------|----------------------|----------------------|
| 1M46 | ON | ON | ON |
| Term. Comm. | 2-3,5-6 8-9,11-12 | 2-3,5-4 8-9,11-10 | 2-1,5-4 8-7,11-10 |

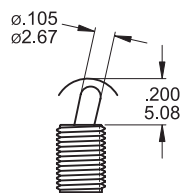


Actuator Options:

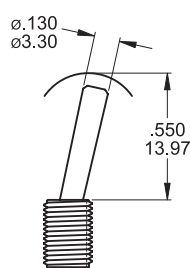
T1 STD



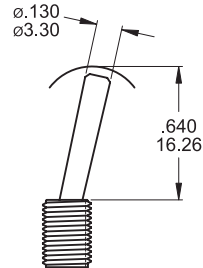
T2



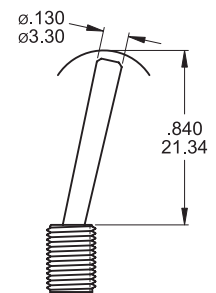
T3



T4



T5



Note: T1 ~ T5 Actuator shown with standard B1 Bushing:

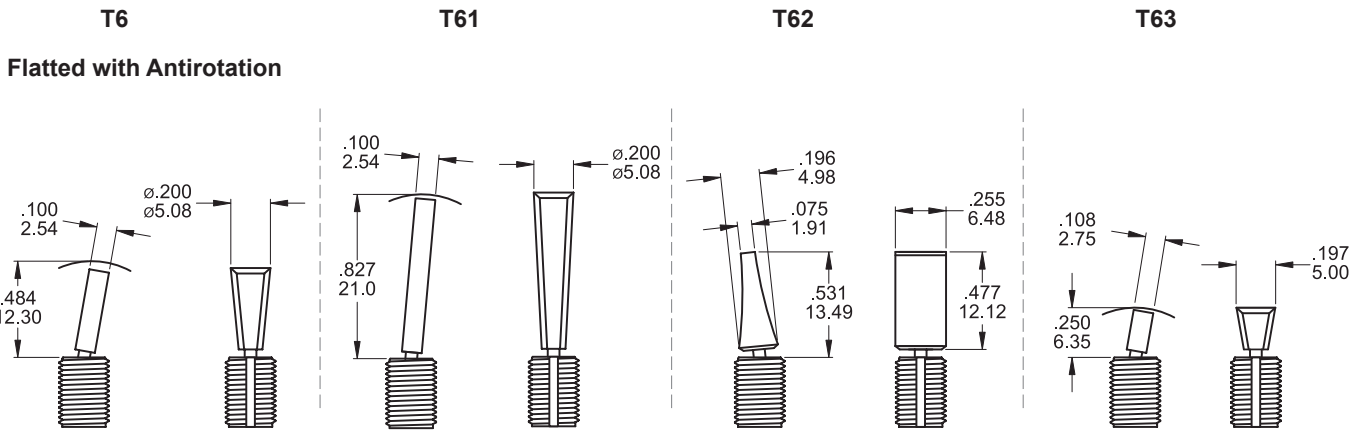
Add .070 (1.78) for B3 Bushing;

Subtract .02 (0.51) for B6 Bushing;

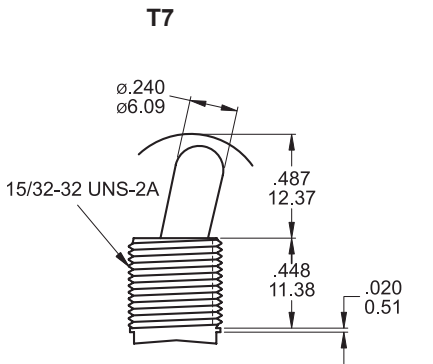
Std for M1 , M2 Terminal sub .016 (0.4) for M6 , M7 , VSX



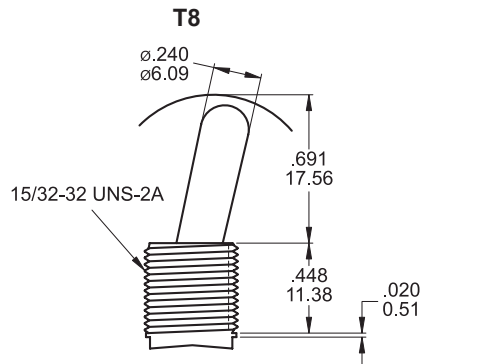
Minature Toggle Switches



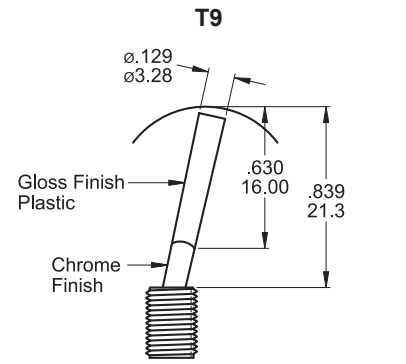
Note T6, T6-1, T6-2, T63 use with B11, B12, B15, B16 bushing only.



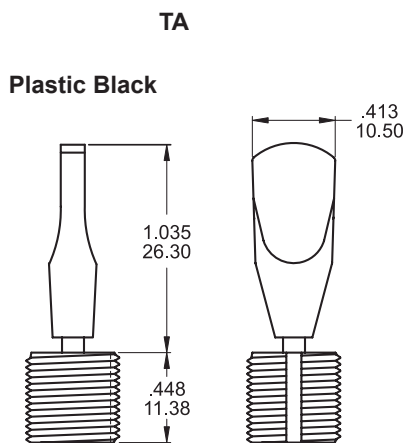
Use with B13 bushing
Use with B18, B20 the lever is antirotation and the size of lever is 13.00mm



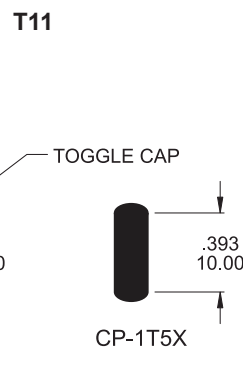
Use with B13 bushing
Use with B18, B20 the lever is antirotation and the size of lever is 18.00mm



B1 / B2 bushing std
with black and red color only (std.)



Use with B18 bushing only



Note T11 Actuator shown with standard B1 Bushing ;
Add .07 (1.78) for B3 Bushing ;
Subtract .02 (0.51) for B6 Bushing.
Std for M1, M2 Terminal sub .016 (0.40) for M6, M7, VSX

Plastic No. Colour :

| ITEM NO | COLOR |
|---------|-------------|
| 1 | White |
| 2 | Black (Std) |
| 3 | Red |
| 4 | Orange |
| 5 | Yellow |
| 6 | Green |
| 7 | Blue |
| 8 | Brown |
| 9 | Gray |

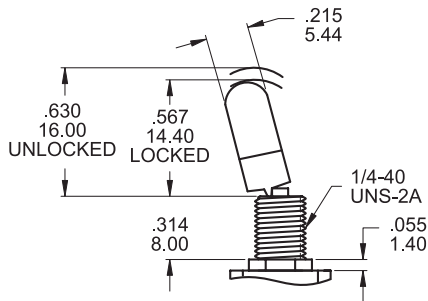
T62, TA, T9, T11
Actuator Only



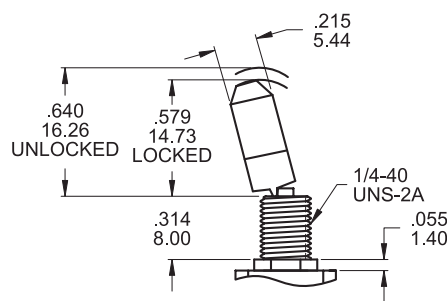
Minature Toggle Switches



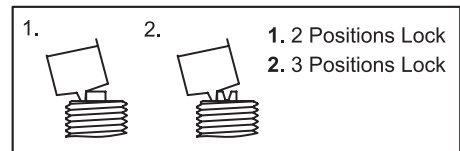
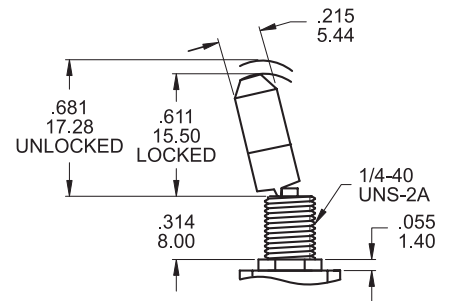
TL1B25



TL2B25

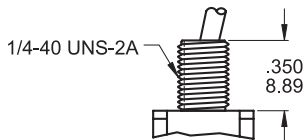
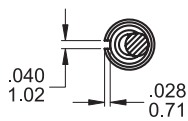


TL3B25

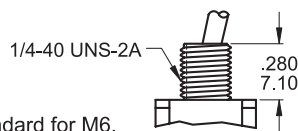
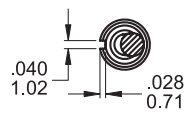


Bushing Options:

**B1 THD STD
B2 NON-THD**

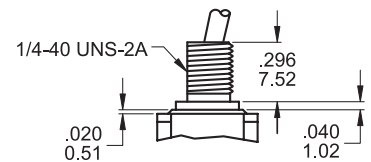
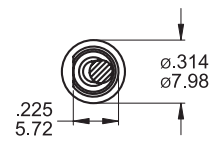


**B3 THD
B4 NON-THD**

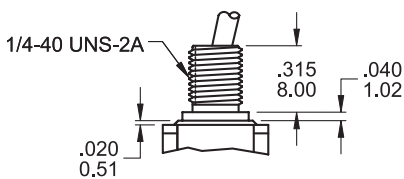
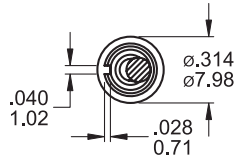


B4 is standard for M6, M7 and VS2~5 termination options.

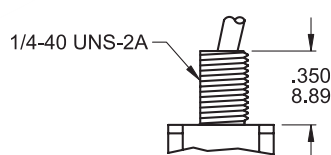
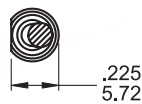
B5 HIGH TORQUE



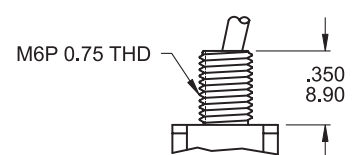
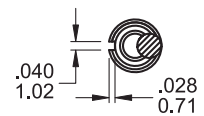
B6 HIGH TORQUE



B7 THD STD



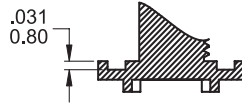
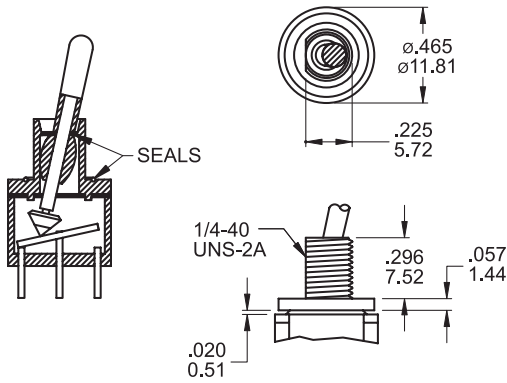
B8 METRIC THD



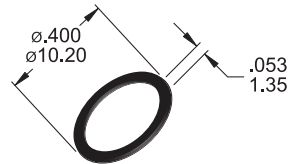
Minature Toggle Switches



B9 SPLASH PROOF

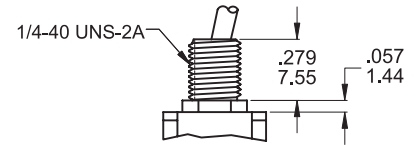
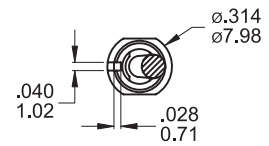


CP-1TEB



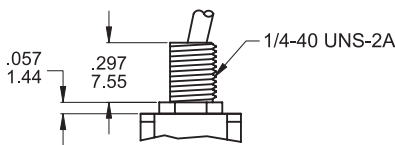
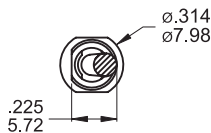
O-Ring
supplied with B9 bushing

B11 THD STD B12 NON-THD



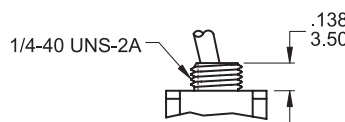
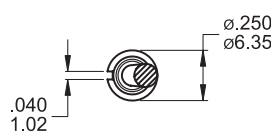
Use with T6 actuators only

B15 THD STD B16 NON-THD

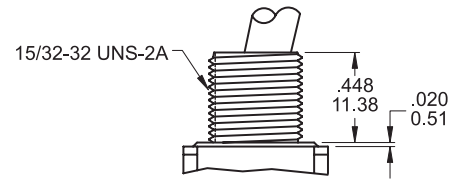
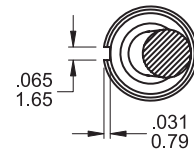


Use with T6 actuators only

B17

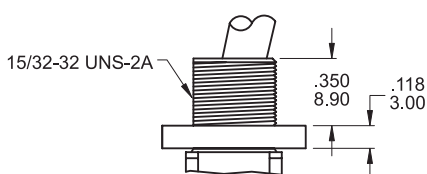
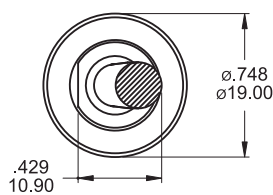


B13



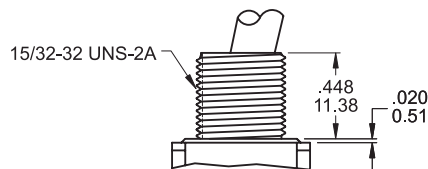
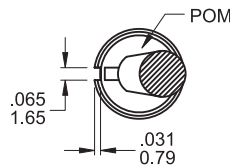
Use with T7, T8 actuators only
B13 Bear strength from top of actuator
up to 10kg aside up to 15kg

B14 SPLASH PROOF



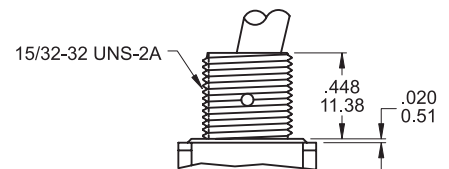
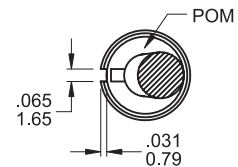
Use with T7, T8 actuators only

B18



Use with T7, T8 and TA actuators only
with Plastic (POM) Insert

B20



Use with T7, T8 and TA actuators only
with Plastic (POM) Insert

B18, B20 Bear strength from top of actuator up to 20kg aside up to 15kg

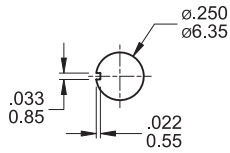


Minature Toggle Switches

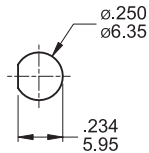


Panel Mounting:

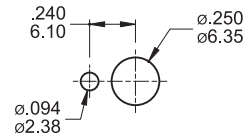
1/4" Bushing



Without locking ring (Keyway)

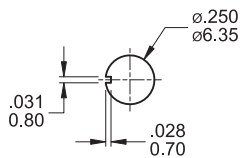


Without locking ring (Flat)

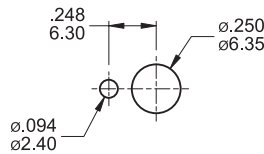


With standard locking ring.

Metric Bushing

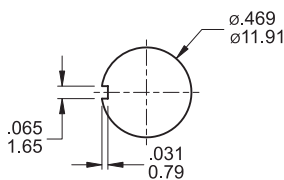


Without locking ring (Keyway)

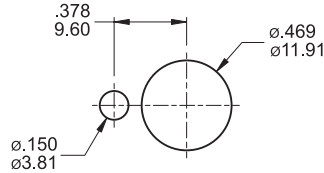


With standard locking ring.

15/32 Bushing

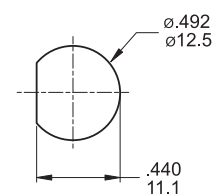


Without locking ring (Keyway)



With standard locking ring.

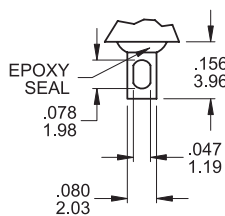
Splash Proof Bushing



Without locking ring (Flat)

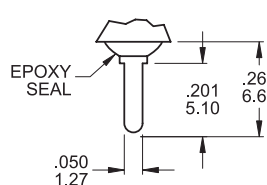
Termination Options:

M1 Solder lug



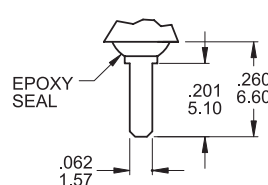
.030(0.76) THK.

M2 PC Thru-hole



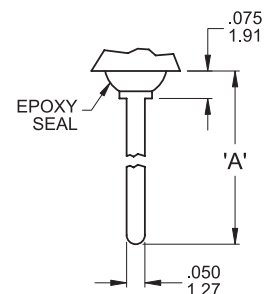
.030(0.76) THK.

M3 Quick connect



.030(0.76) THK.

M5 Wire Wrap



.030(0.76) THK.



Minature Toggle Switches

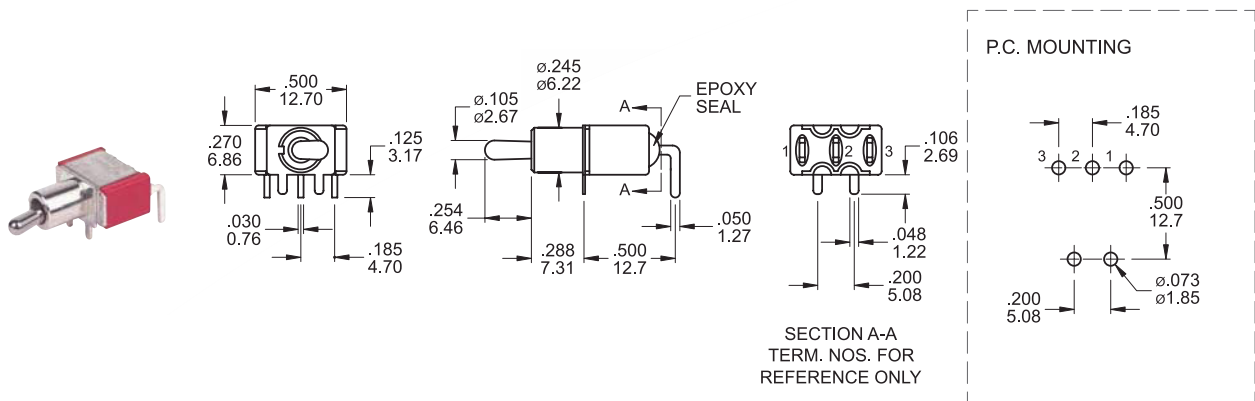


| Option Code | Dim. A |
|-------------|---------------|
| M5-1 | 0.736 (18.7) |
| M5-2 | 0.953 (24.20) |
| M5-3 | 0.415 (10.55) |
| M5-4 | 1.062 (26.97) |

Other Termination Options:

- M6** Right Angle P.C. Mount
- M7** Right Angle P.C. Mount
- VS2** Vertical Bracket P.C. Mount
- VS3** Vertical Bracket P.C. Mount
- VS5** Vertical Bracket P.C. Mount

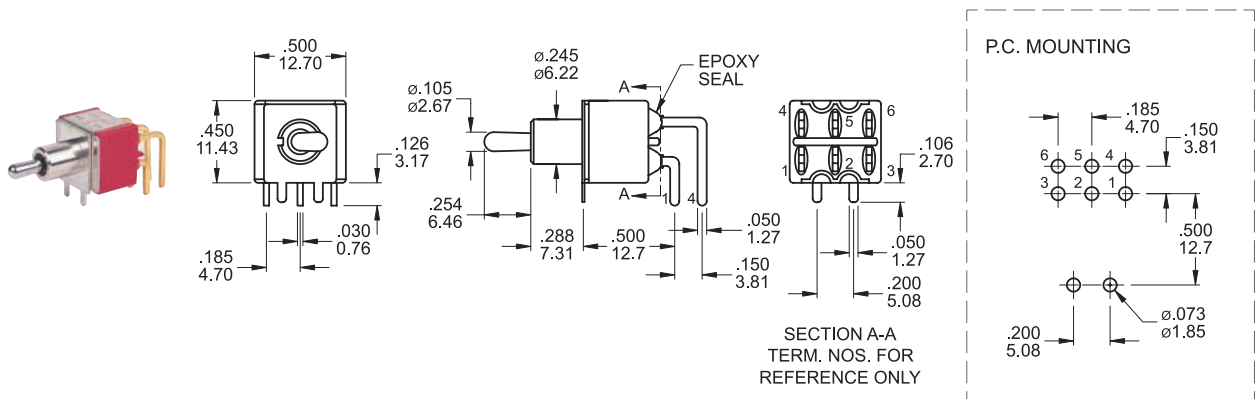
M6



SPDT

Part No. Shown : 1MS1T2B4M6QE

M6



DPDT

Part No. Shown : 1MD1T2B4M6RE

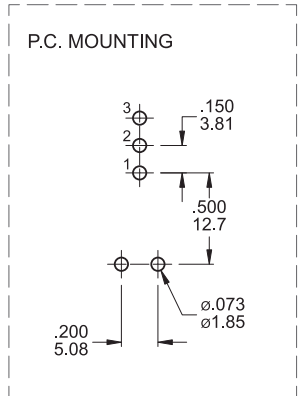
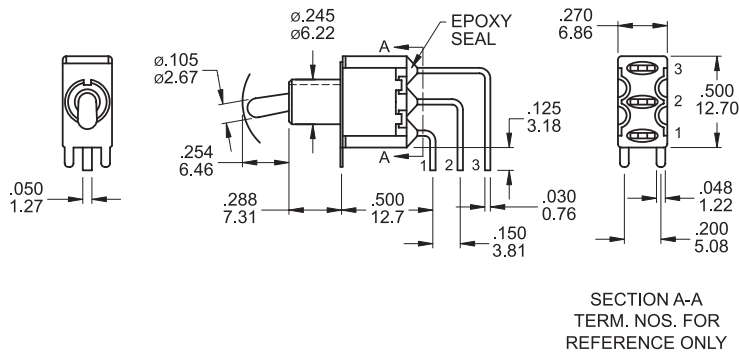
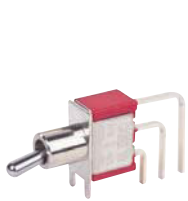
www.element14.com
www.farnell.com
www.newark.com



Minature Toggle Switches



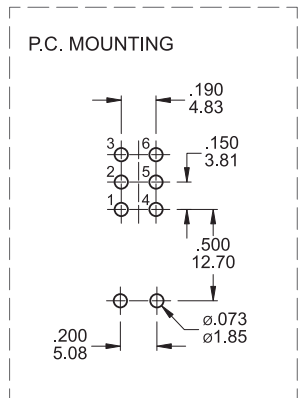
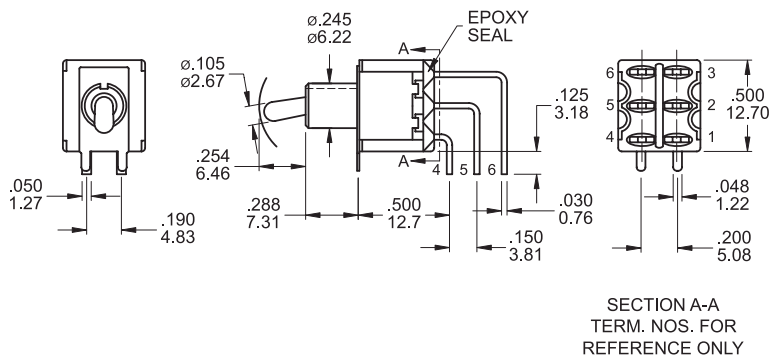
M7



SPDT

Part No. Shown : 1MS1T2B4M7QE

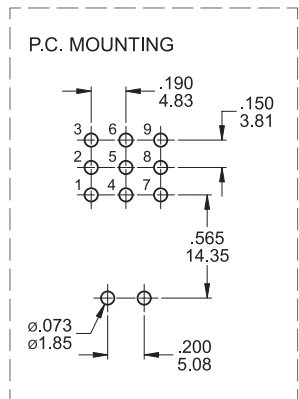
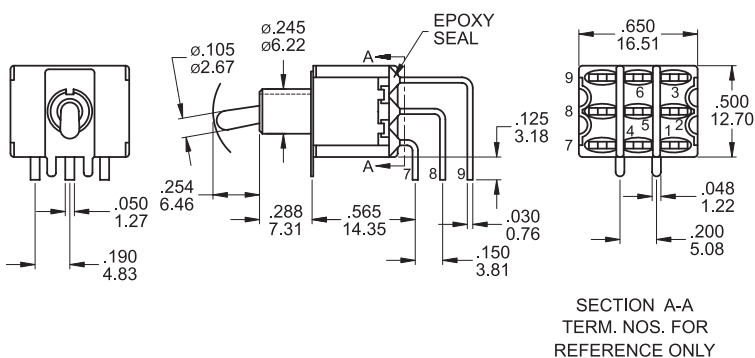
M7



DPDT

Part No. Shown : 1MD1T2B4M7QE

M7



3PDT

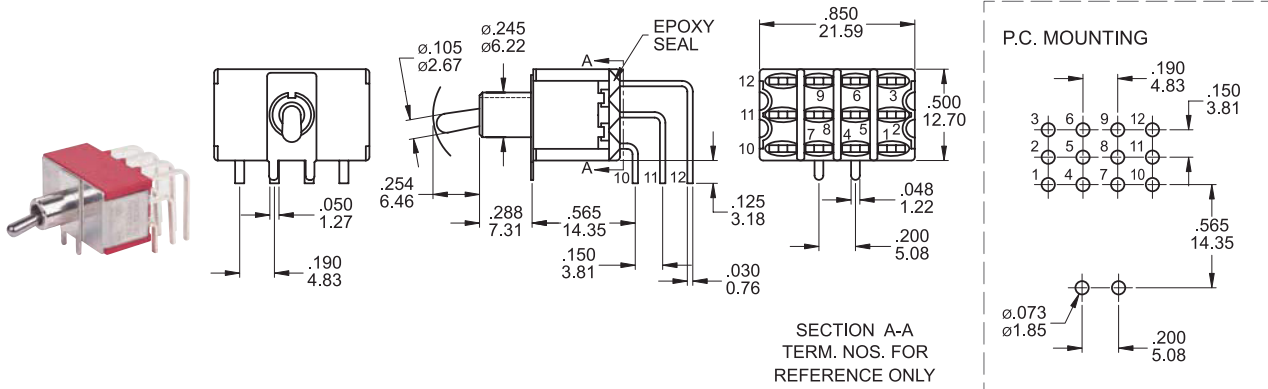
Part No. Shown : 1M31T2B4M7QE



Minature Toggle Switches



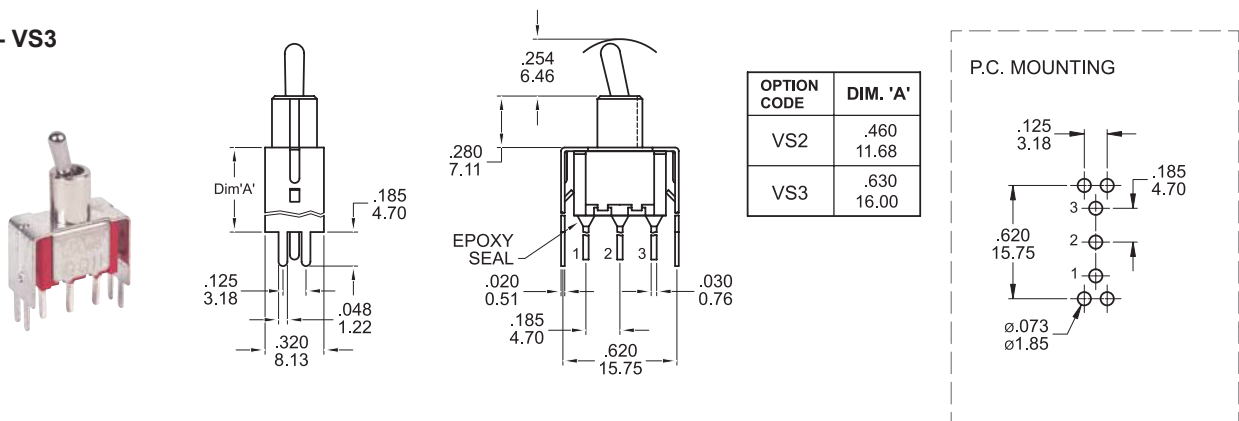
M7



4PDT

Part No. Shown : 1M41T2B4M7QE

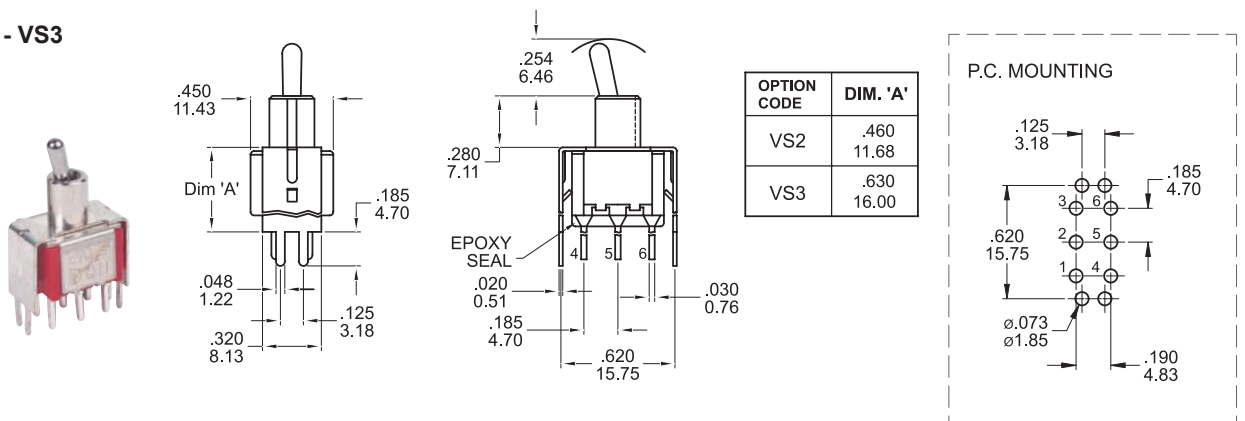
VS2 - VS3



SPDT

Part No. Shown : 1MS1T2B4VS2QE

VS2 - VS3



DPDT

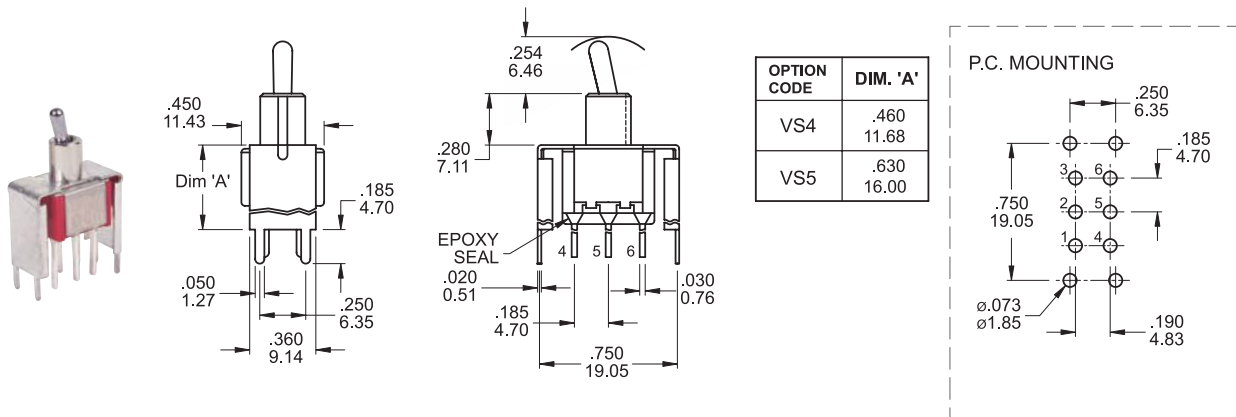
Part No. Shown : 1MD1T2B4VS3QE



Miniature Toggle Switches



VS5



DPDT

Part No. Shown : 1MD1T2B4VS5QE

Snap-In Termination Options:

M6N

V2N



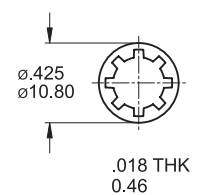
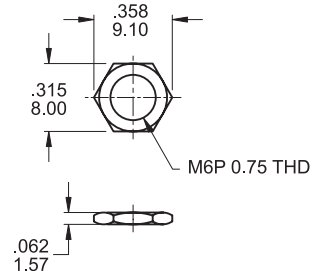
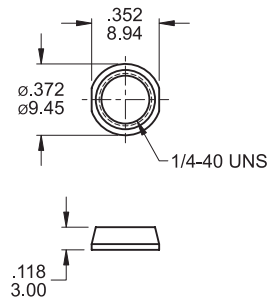
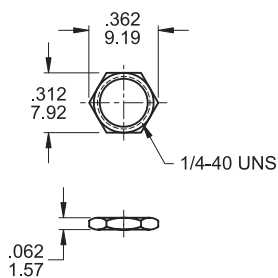
Hardware:

1/4 Nuts HDW2

Dress Nut HDW3

Metric Nut HDW6

Lock Washer HDW11



Supplied standard with B1, B3, B5, B6 and B9 options

Supplied standard with B8 metric bushing

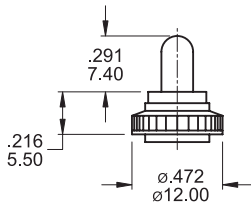
Supplied standard with B1 / B3 bushing



Minature Toggle Switches

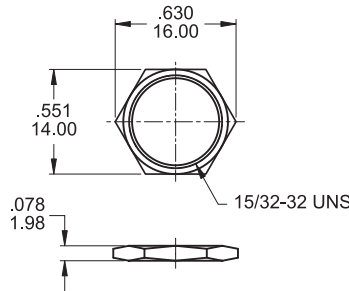


Optional Rubber Hood Sealing



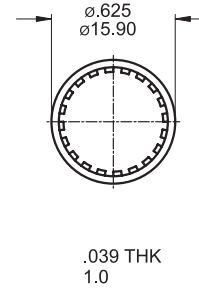
K1=Metric
E1=Inch (Std.)
for actuator T1, T2 and
B1, B3, B5, B6 Bushing only

15/32 Nuts HDW4



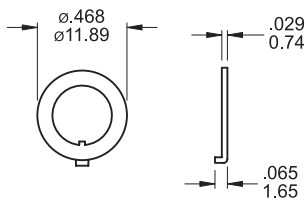
Supplied standard with B13 bushing

Lock Washer HDW12



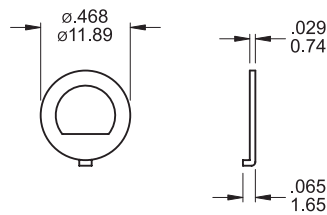
Supplied standard with B13 bushing

HDW15



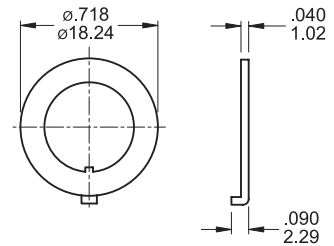
Locking ring supplied standard

HDW16



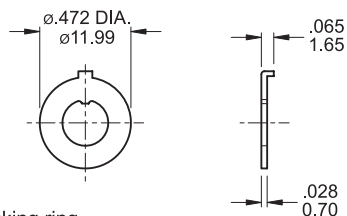
Locking ring
supplied with B5 bushing

HDW17



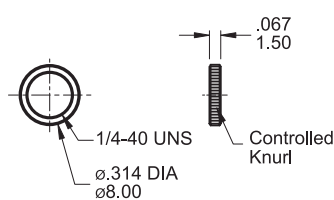
Locking ring
supplied with B13,B18,B20 bushing

HDW18



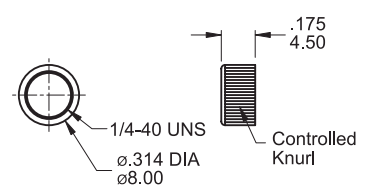
Locking ring
supplied with B8 bushing

HDW19



NU-1M18

HDW20



NU-1M24

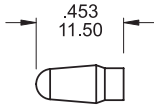


Minature Toggle Switches



Optional Toggle Cap:

CP-T1XX



Use with T1

CAP Colour :

| Item No | Colour |
|---------|-------------|
| 1 | White |
| 2 | Black (Std) |
| 3 | Red |
| 5 | Yellow |
| 6 | Green |
| 7 | Blue |
| 9 | Gray |

Contact Material Options:

| | Contact Plating | Terminal Plating | Ratings |
|---|------------------|---------------------------------|---|
| Q | Silver | Q = Silver | 5 Amps with resistant load @ 120VAC or 28VDC 2 Amps with resistant load @ 250VAC |
| S | | S = Silver,pure - tin | |
| C | Gold over Silver | C = Gold over silver | |
| K | | K = Gold over silver,pure - tin | |
| R | Gold | R = Gold | 0.4 Volt - Amps (VA) max. @ 20V max. (AC or DC) |
| G | | G = Gold,pure - tin | |

Soldering Processes:

Manual Soldering: Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

Wave Soldering: Recommended Soldering Temperature: 260 ± 5°C Duration of Solder Immersion: Max 5 sec.
(PCB is 1.6mm in thickness)

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