



ENGLISH

Datasheet

Stock No: 394-469

RS PRO Panel Mount Toggle Switch



Feature:

ON-OFF-ON

21.0 high

7.55 high, keyway (thd std)

Solder lug

Silver

EPOXY (std)

RoHS & Lead Free

Code symbol:

1MD3

T61

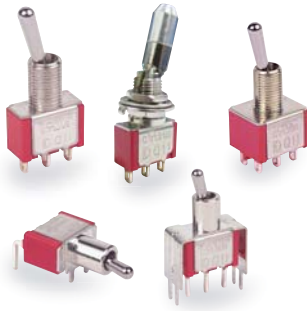
B11

M1

Q

E

S



SPECIFICATIONS

CONTACT RATING: Dependent upon contact material, see page 11.

MECHANICAL LIFE: 40,000 make-and-break cycles.

CONTACT RESISTANCE: 10mΩ max. (initial value) @ 2-4VDC
100mA for both silver and gold plated contacts.

INSULATION RESISTANCE: 1,000 MΩ min./1000VDC

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level. (initial value)

OPERATING TEMPERATURE: -40°C to 85°C.

MATERIALS

CASE: Diallyl phthalate (DAP) (UL94v-0).

ACTUATOR: Brass, chrome plated.

BUSHING: Brass, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass, tin plated.

CONTACT / TERMINALS: Copper with silver or gold plated.

(See page 11)

| MODEL NO. | ACTUATOR | BUSHING | TERMINAL TYPE | TERMINAL PLATING | SEAL | RoHS SOLDERING |
|----------------------|--------------------------|---------|--|---|---|---------------------------|
| SP | | | | Q Silver R Gold C Gold over silver | E EPOXY (std) N NO EPOXY | S RoHS & Lead Free |
| 1MS1 ON-NONE-ON | T1 10.41 high | | | | | |
| 1MS2 ON-NONE-(ON) | T2 5.08 high | | | | | |
| 1MS3 ON-OFF-ON | T3 13.97 high | | | | | |
| 1MS4 (ON)-OFF-(ON) | T4 16.26 high | | | | | |
| 1MS5 ON-OFF-(ON) | T5 21.34 high | | | | | |
| | T9□ 21.3 high, Plastic | | B1 8.89 high, keyway (thd std) | | M1 Solder lug | |
| | T7 12.37 high ** | | B2 8.89 high, keyway (non-thd) | | M2 PC thru-hole | |
| DP | T8 17.56 high ** | | B3 7.10 high, keyway (thd) | | M3 Quick connect | |
| 1MD1 ON-NONE-ON | T88 17.5 high *** | | B4 7.10 high, keyway (non-thd) | | M51 18.70 high, wire wrap | |
| 1MD2 ON-NONE-(ON) | | | B7 8.89 high, flat (thd std) | | M52 24.20 high, wire wrap | |
| 1MD3 ON-OFF-ON | <u>Anti-rotation</u> | | B8 8.89 high, keyway (metric thd) | | M53 10.55 high, wire wrap | |
| 1MD4 (ON)-OFF-(ON) | T6 12.30 high | | B11 7.55 high, keyway (thd std) **** | | M54 26.97 high, wire wrap | |
| 1MD5 ON-OFF-(ON) | T61 21.0 high | | B12 7.55 high, keyway (non-thd) **** | | M6 Right angle, PC thru-hole | |
| 1MD6 ON-ON-ON | T62 13.49 high, With cap | | B13 11.38 high, keyway (15/32 bushing) | | M6N Right angle, Snap-in, PC thru-hole | |
| 1MD7 (ON)-ON-(ON) ▲ | T63 6.35 high | | B15 7.55 high, flat (thd std) **** | | M7 Vertical right angle, PC thru-hole | |
| 1MD8 ON-ON-(ON) ▲ | <u>Locking lever</u> | | B16 7.55 high, flat (non-thd) **** | | | |
| | TL1 16.00 high | | B17 3.50 high, keyway, (thd) | | <u>V-bracket</u> | |
| 3P | TL2 16.26 high | | B18 11.38 high, keyway (15/32 bushing) | | VS2 11.68 high | |
| 1M31 ON-NONE-ON | TL3 17.28 high | | B20 11.38 high, keyway (15/32 bushing) | | V2N 11.68 high, Snap-in. | |
| 1M32 ON-NONE-(ON) | | | | | VS3 16.00 high | |
| 1M33 ON-OFF-ON | | | <u>High torque</u> | | VS4 11.68 high | |
| 1M34 (ON)-OFF-(ON) | | | B5 7.52 high, flat | | VS5 16.00 high | |
| 1M35 ON-OFF-(ON) | | | B6 8.00 high, keyway | | | |
| 4P | | | <u>Locking</u> | | | |
| 1M41 ON-NONE-ON | | | B25 8.00 high, keyway, (thd) * | | | |
| 1M42 ON-NONE-(ON) | | | B26 8.00 high, keyway, (non-thd) * | | | |
| 1M43 ON-OFF-ON | | | <u>Splash proof</u> | | | |
| 1M44 (ON)-OFF-(ON) | | | B9 7.52 high, flat, (thd) | | | |
| 1M45 ON-OFF-(ON) | | | B14 11.90 high, flat, (15/32 bushing) | | | |
| 1M46 ON-ON-ON | | | B52 11.70 high, flat, (15/32 bushing) *** | | | |
| 1M47 (ON)-ON-(ON) ▲ | | | | | | |
| 1M48 4P ON-ON-(ON) ▲ | | | | | | |

▲ Please confirm the availability before order.

* Only available for Locking lever.
** Only available for 15/32 bushing.
*** T88 actuators are only available with B52 bushing
**** Only available for Anti-rotation lever.

EXAMPLE: 1MS1T1B1M1QES

SWITCH FUNCTION

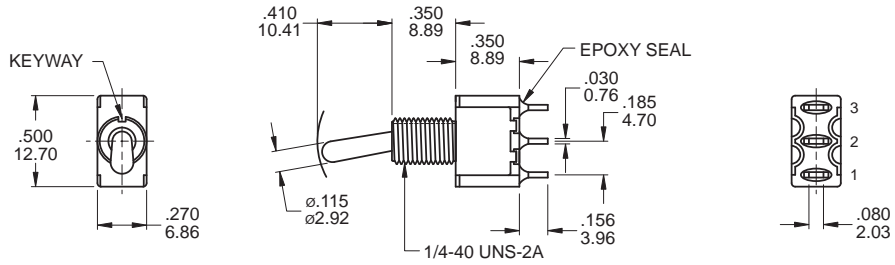
| NO. POLES | UL/CSA MODEL NO. | MODEL NO. | SWITCH FUNCTION | | | CONNECTED TERMINALS / SCHEMATIC | | | |
|-----------|------------------|-----------|-----------------|-------|-------|---------------------------------|-------------------|-------------------|---------|
| | | | POS.1 | POS.2 | POS.3 | POS.1 | POS.2 | POS.3 | |
| | | | | | | | | | |
| SP | Q1111 | 1MS1 | ON | NONE | ON | 2-3 | N/A | 2-1 | |
| | Q1112 | 1MS2 | ON | NONE | (ON) | | | | |
| | Q1113 | 1MS3 | ON | OFF | ON | | | | |
| | Q1114 | 1MS4 | (ON) | OFF | (ON) | | | | |
| | Q1115 | 1MS5 | ON | OFF | (ON) | | | | |
| DP | Q1121 | 1MD1 | ON | NONE | ON | 2-3,5-6 | N/A | 2-1,5-4 | |
| | Q1122 | 1MD2 | ON | NONE | (ON) | | | | |
| | Q1123 | 1MD3 | ON | OFF | ON | | | | |
| | Q1124 | 1MD4 | (ON) | OFF | (ON) | | | | |
| | Q1125 | 1MD5 | ON | OFF | (ON) | | | | |
| | ▲ | Q1126 | 1MD6 | ON | ON | ON | 2-3,5-6 | 2-3,5-4 | 2-1,5-4 |
| | ▲ | Q1127 | 1MD7 | (ON) | ON | (ON) | | | |
| | ▲ | Q1128 | 1MD8 | ON | ON | (ON) | | | |
| 3P | Q1131 | 1M31 | ON | NONE | ON | 2-3,5-6,8-9 | N/A | 2-1,5-4,8-7 | |
| | Q1132 | 1M32 | ON | NONE | (ON) | | | | |
| | Q1133 | 1M33 | ON | OFF | ON | | | | |
| | Q1134 | 1M34 | (ON) | OFF | (ON) | | | | |
| | Q1135 | 1M35 | ON | OFF | (ON) | | | | |
| 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 | (ON) | | | | |
| | Q1143 | 1M43 | ON | OFF | ON | | | | |
| | Q1144 | 1M44 | (ON) | OFF | (ON) | | | | |
| | Q1145 | 1M45 | ON | OFF | (ON) | | | | |
| | Q1146 | 1M46 | ON | ON | ON | 2-3,5-6,8-9,11-12 | 2-3,5-4,8-9,11-10 | 2-1,5-4,8-7,11-10 | |
| | ▲ | Q1147 | 1M47 | (ON) | ON | | | | (ON) |
| | ▲ | Q1148 | 1M48 | ON | ON | | | | (ON) |

() = MOMENTARY

▲ Please confirm the availability before order.

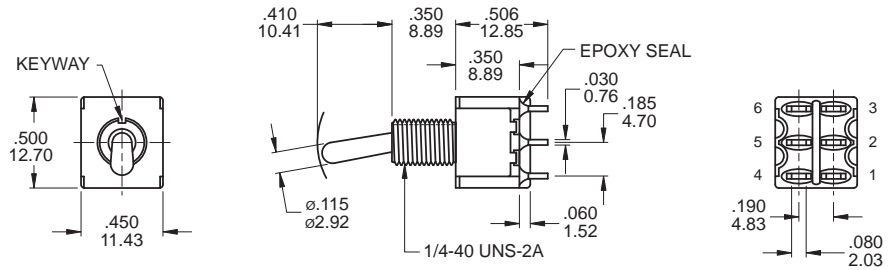
▼ POLE OPTIONS

1M
Toggle Switches



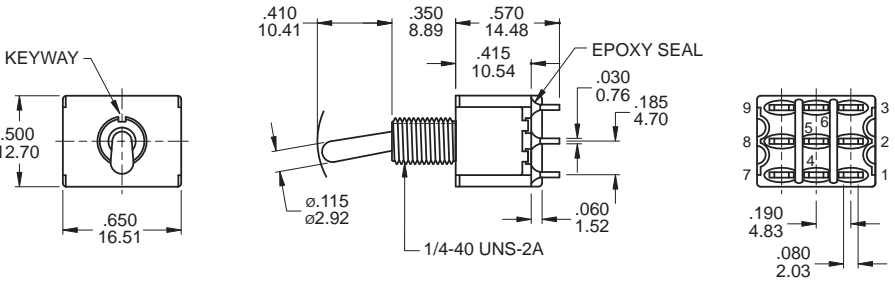
SPDT

Model name. 1MS1T1B1M1QES



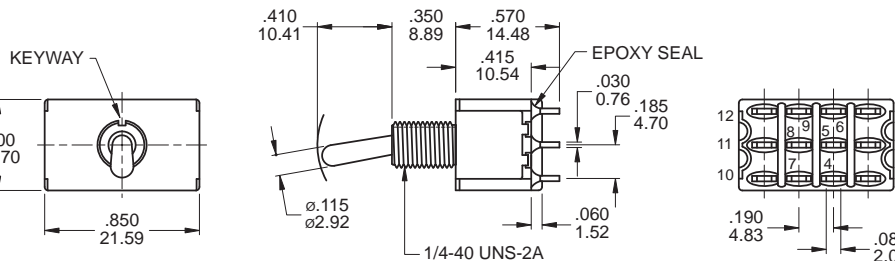
DPDT

Model name. 1MD1T1B1M1QES



3PDT

Model name. 1M31T1B1M1QES



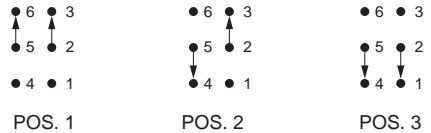
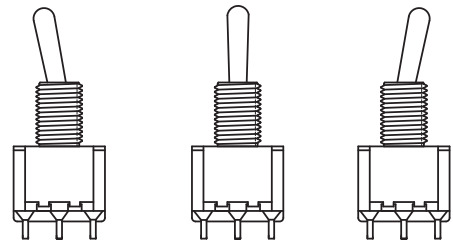
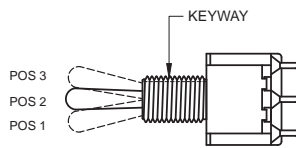
4PDT

Model name. 1M41T1B1M1QES

▼ 3-WAY SWITCH

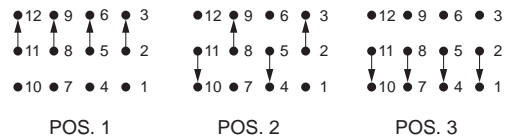
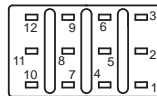
SINGLE POLE, 3 POSITION

| 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

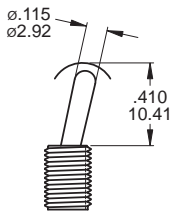
| Model No. | POS 1 | POS 2 | POS 3 |
|-------------|----------------------|----------------------|----------------------|
| 1M46 | ON | ON | ON |
| Term. Comm. | 2-3,5-6 8-9,11-12 | 2-3,5-4 8-9,11-10 | 2-1,5-4 8-7,11-10 |



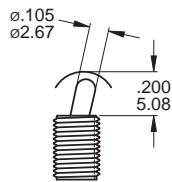
* Diagram of the 3-way switch wiring

▼ ACTUATOR OPTIONS

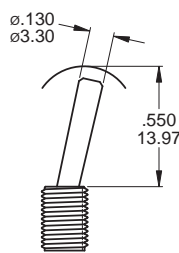
T1 STD



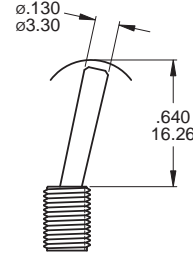
T2



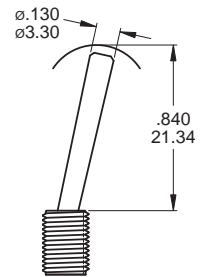
T3



T4



T5



T1~T5 Actuator are shown with Bushing B1(standard) and available with Terminal M1,M2.

Note: For B3 Bushing: +.070inch(1.78mm)

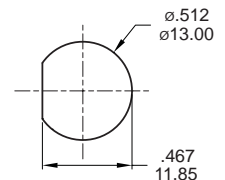
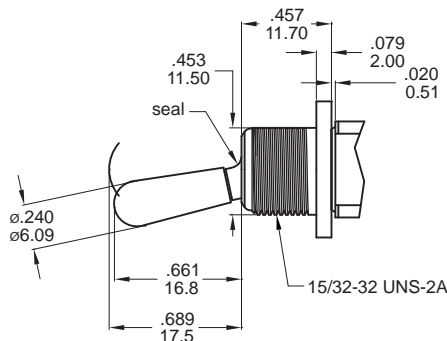
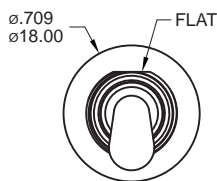
For B6 Bushing: -.020inch(0.51mm)

For B1/B2 Bushing with Terminal M6, M7, VSX: -.016inch(0.40mm)

T88B52

SPLASH PROOF

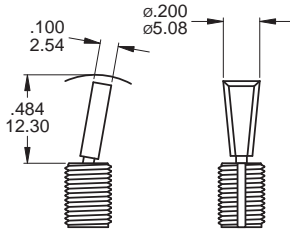
* Standard function is SPDT, can only applicable with terminal M1 and M2.



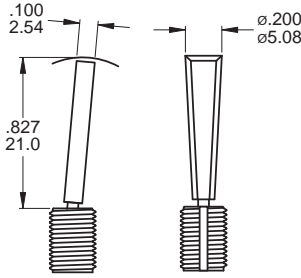
PANEL MOUNTING
Without locking ring (Flat)

Note: T6, T61, T62, T63 can only be use with B11, B12, B15, B16 bushing.

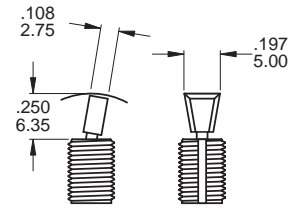
T6 FLATTED WITH ANTI-ROTATION



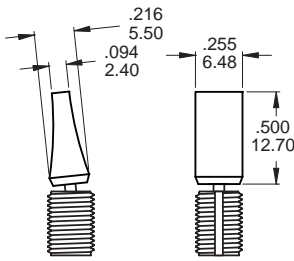
T61



T63



T62 WITH BLACK CAP(STD)



Plastic Color :

| ITEM NO | COLOR |
|---------|--------|
| 1 | White |
| 3 | Red |
| 4 | Orange |
| 5 | Yellow |
| 6 | Green |
| 7 | Blue |
| 9 | Gray |

* Except standard color, for other colors information please consult sales representativity.

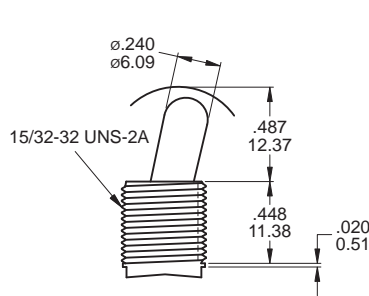
EXAMPLE:

1MS1T62M1QES (BLACK STD)

1MS1T62□M1QES

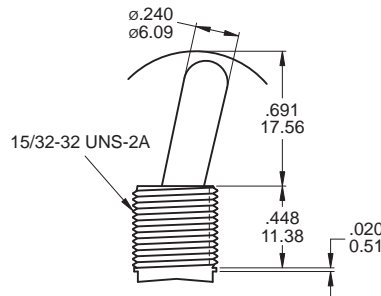
□ Cap Color

T7



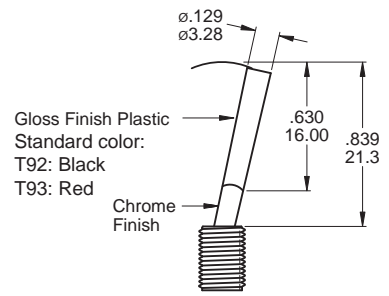
Shown with B13 bushing.
Use with Bushing B18 and B20, the lever is antirotation and the length of lever is 13.00mm.

T8



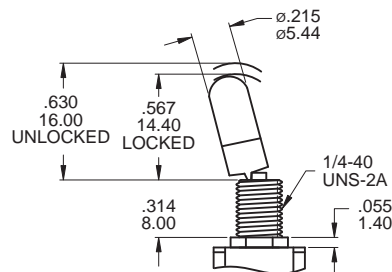
Shown with B13 bushing.
Use with Bushing B18 and B20, the lever is antirotation and the length of lever is 18.00mm.

T9□

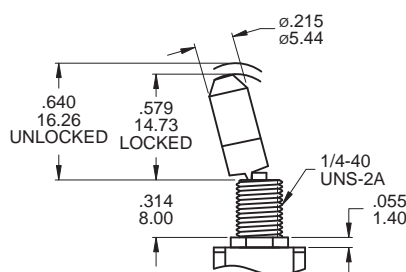


Standard for B1 and B2 bushing.

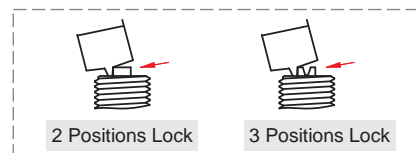
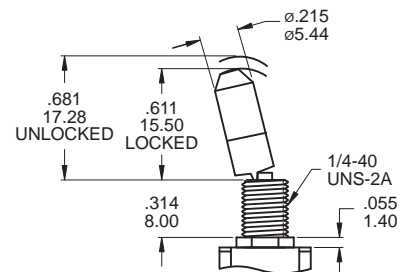
TL1B25 THD STD B26 NON-THD



TL2B25 THD STD B26 NON-THD

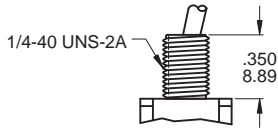
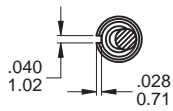


TL3B25 THD STD B26 NON-THD



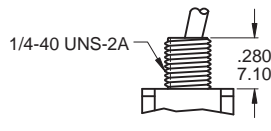
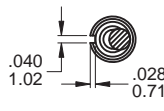
▼ BUSHING OPTIONS

B1 THD STD
B2 NON-THD



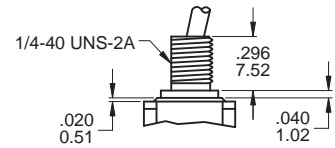
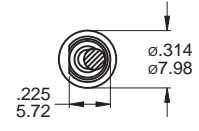
For terminal M6, M7 and VS2-5:
-.015inch(0.39mm)

B3 THD
B4 NON-THD

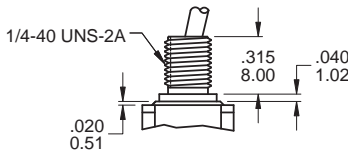
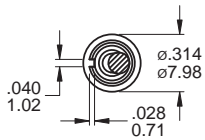


B4 is standard for terminal M6, M7 and VS2-5.

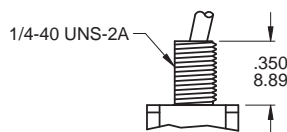
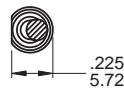
B5 HIGH TORQUE



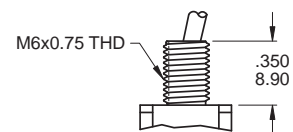
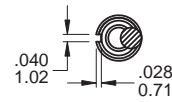
B6 HIGH TORQUE



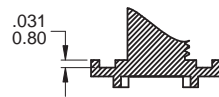
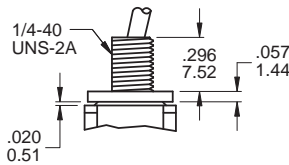
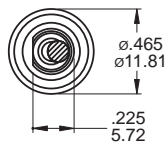
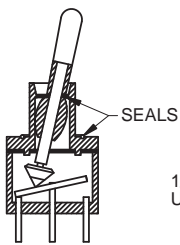
B7 THD STD



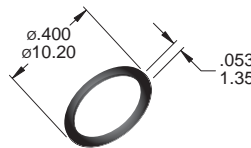
B8 METRIC THD



B9 SPLASH PROOF

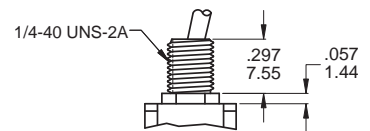
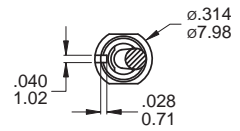


O-RING
Model name. CP-1TEB



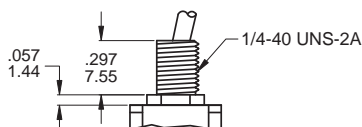
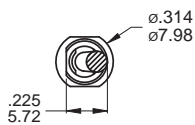
B9 bushing with O-Ring

B11 THD STD
B12 NON-THD



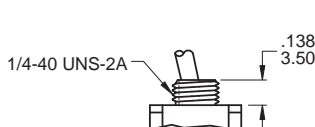
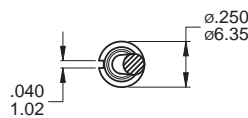
Only available for actuator T6~T63.

B15 THD STD
B16 NON-THD



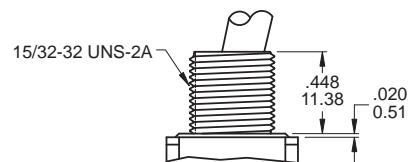
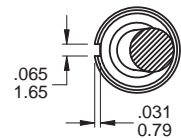
Only available for actuator T6~T63.

B17



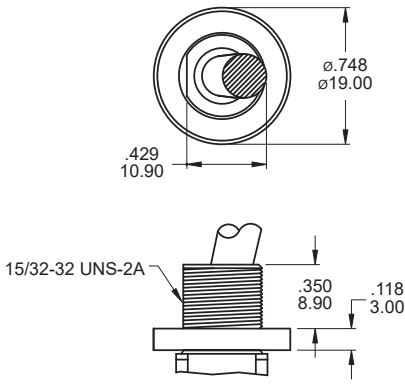
Only available for actuator T2 and the length of lever is .311inch(7.90mm).
Standard for terminal M1, M2

B13



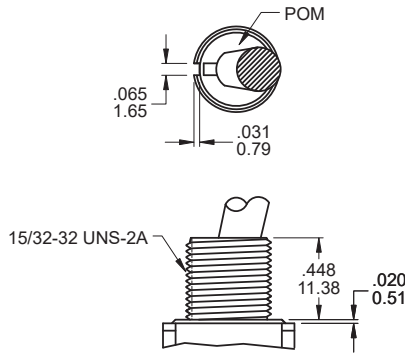
Available with actuator T7 and T8 only.
Bear strength from top of actuator is up to 10 kg, and 15kg from aside.

B14 SPLASH PROOF



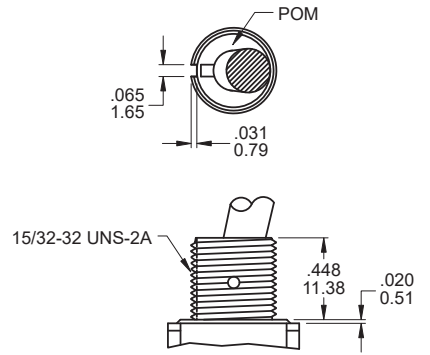
Available with actuator T7 and T8 only.

B18 *



Available with actuator T7 and T8 only.
(with Plastic (POM) Insert)

B20 *



Available with actuator T7 and T8 only.
(with Plastic (POM) Insert)

* Bear strength from top of actuator is up to 20 kg, and 15kg from aside.

▼ TOGGLE CAP

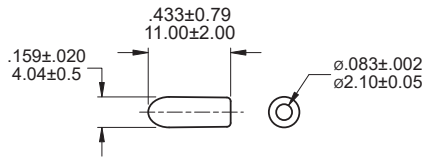


Model name. MCP-1T12 (std.)
Note: Only available for actuator T1

CAP Color :

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

* Except standard color, for other colors information please consult sales representativity.

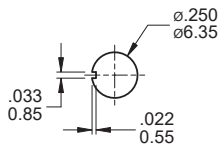


EXAMPLE: - T1

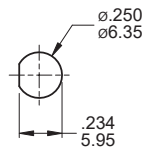
Model name. Cap color
0 No hardware
5 Standard hardware

▼ PANEL MOUNTING

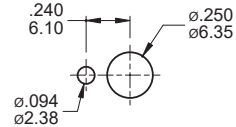
1/4 IN BUSHING



Without locking ring (Keyway)



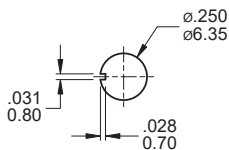
Without locking ring (Flat)



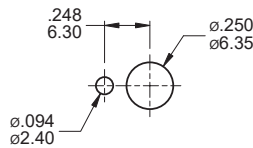
With standard locking ring.

METRIC BUSHING

Note: For B8 bushing.

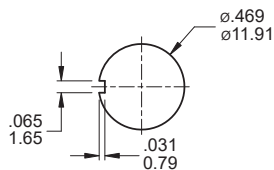


Without locking ring (Keyway)

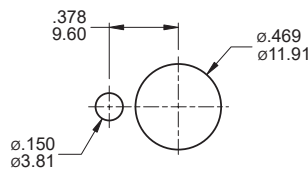


With standard locking ring.

15/32 IN BUSHING



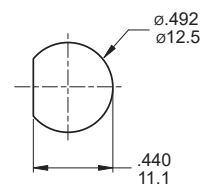
Without locking ring (Keyway)



With standard locking ring.

SPLASH PROOF BUSHING

Note: For B14 bushing.



Without locking ring (Flat)

1M Series

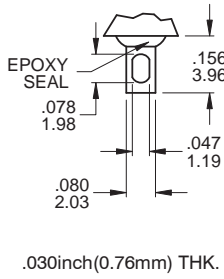
Miniature Toggle Switches



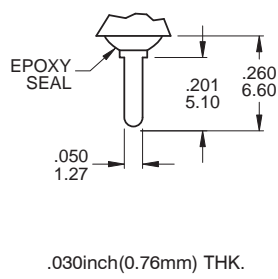
Toggle Switches

▼ TERMINAL OPTIONS

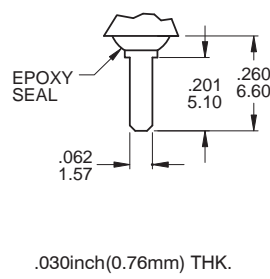
M1 Solder lug



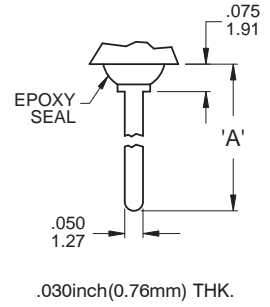
M2 PC Thru-hole



M3 Quick connect



M5 Wire Wrap



▼ OTHER TERMINAL OPTIONS

M6 Right angle P.C. Mount

M7 Vertical right angle P.C. Mount

VS2 Vertical bracket P.C. Mount

VS3 Vertical bracket P.C. Mount

VS5 Vertical bracket P.C. Mount

M6N Right angle P.C. Mount

with snap-in bracket

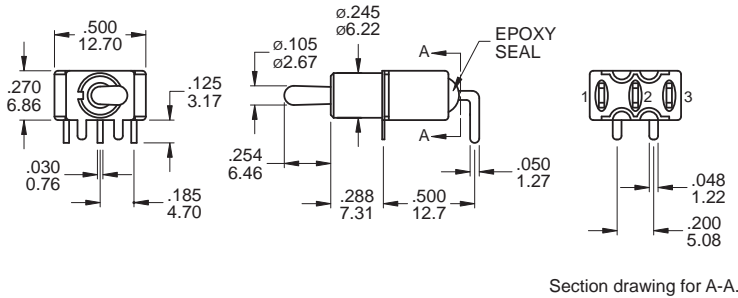
V2N Vertical bracket P.C. Mount

with snap-in bracket

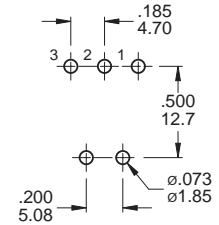
| OPTION CODE | DIM. 'A' |
|-------------|---------------|
| M51 | .736 (18.70) |
| M52 | .953 (24.20) |
| M53 | .415 (10.55) |
| M54 | 1.062 (26.97) |

M6

(M6N - Snap-in)



PCB MOUNTING

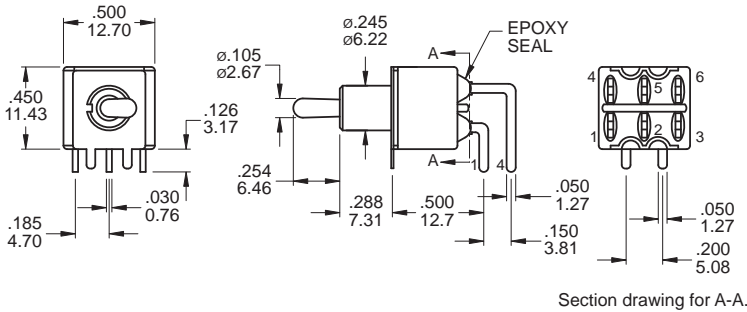


SPDT

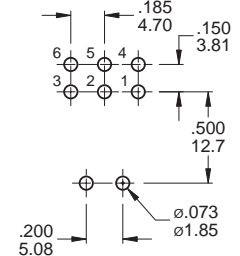
Model name. 1MS1T2B4M6QES

M6

(M6N - Snap-in)



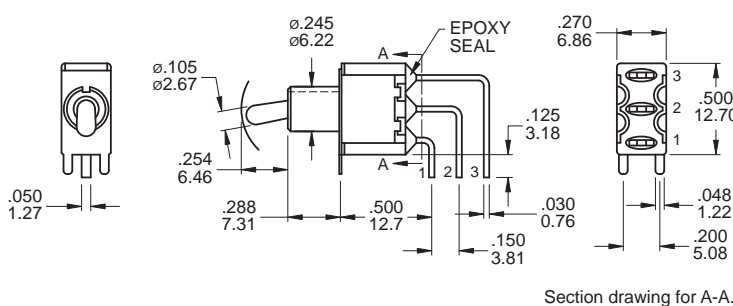
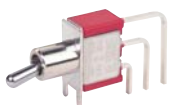
PCB MOUNTING



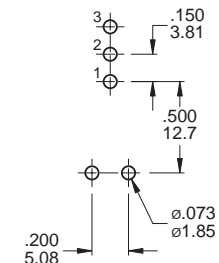
DPDT

Model name. 1MD1T2B4M6RES

M7



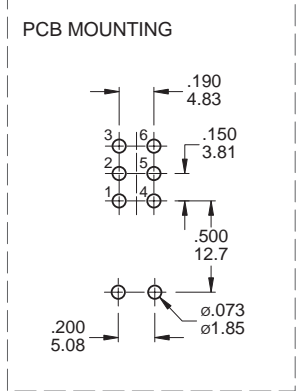
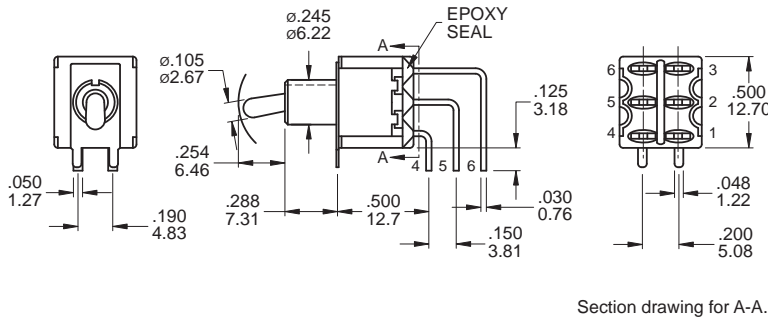
PCB MOUNTING



SPDT

Model name. 1MS1T2B4M7QES

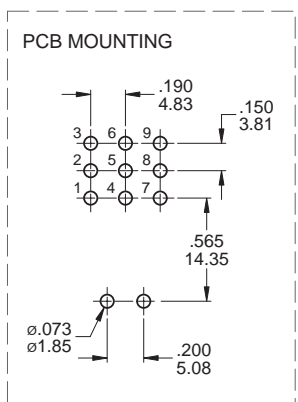
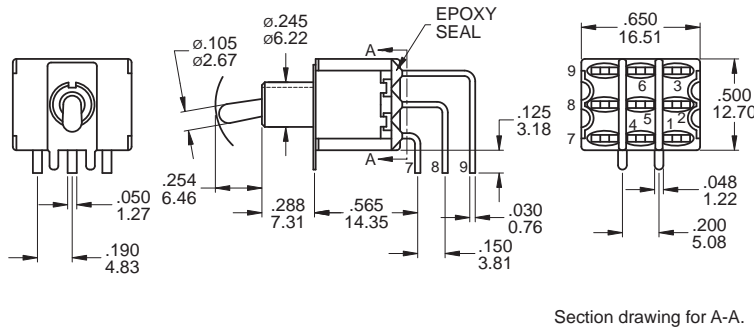
M7



DPDT

Model name. 1MD1T2B4M7QES

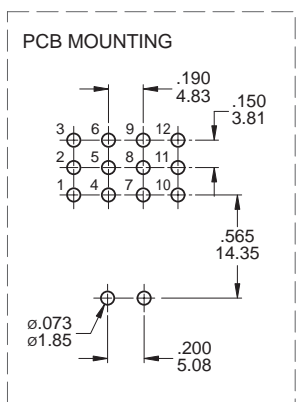
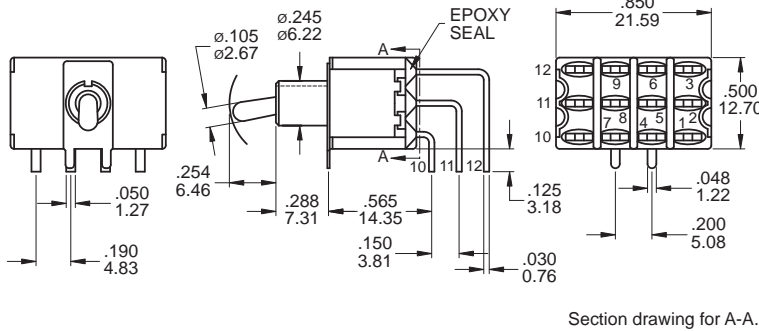
M7



3PDT

Model name. 1M31T2B4M7QES

M7

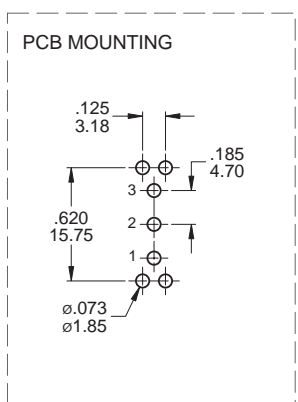
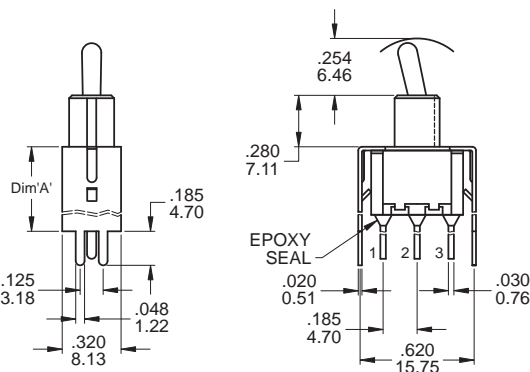


4PDT

Model name. 1M41T2B4M7QES

VS2 / VS3

(V2N - Snap-in)



SPDT

Model name. 1MS1T2B4VS2QES

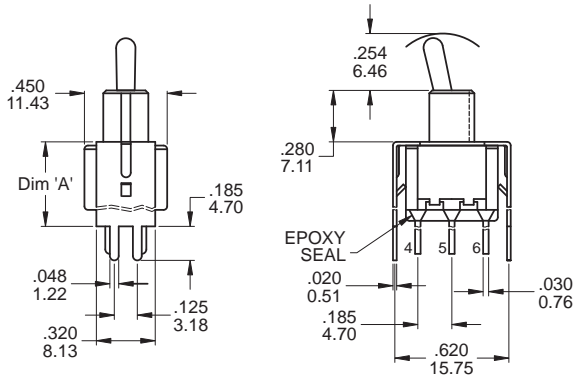
1M Series

Miniature Toggle Switches

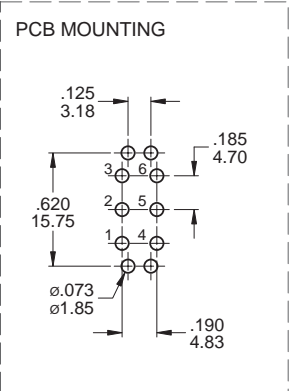


1M Series Toggle Switches

VS2 / VS3 (V2N - Snap-in)



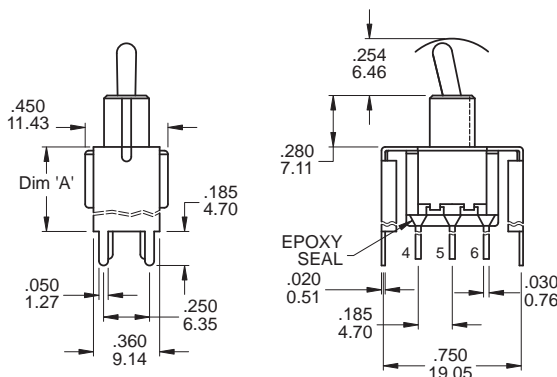
| OPTION CODE | DIM. 'A' |
|-------------|---------------|
| VS2 (V2N) | .460 11.68 |
| VS3 | .630 16.00 |



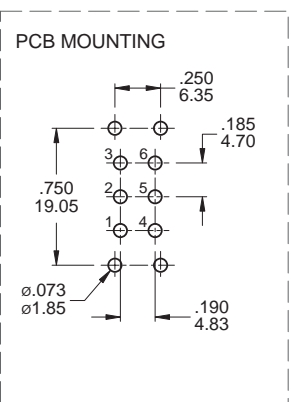
DPDT

Model name. 1MD1T2B4VS2QES

VS4 / VS5



| OPTION CODE | DIM. 'A' |
|-------------|---------------|
| VS4 | .460 11.68 |
| VS5 | .630 16.00 |

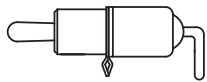
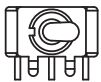


DPDT

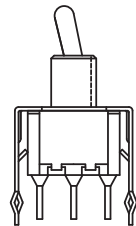
Model name. 1MD1T2B4VS5QES

▼ SNAP-IN TERMINAL OPTIONS

M6N



V2N



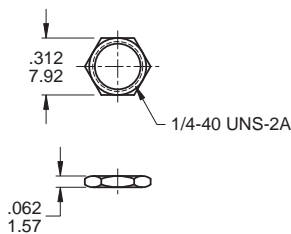
▼ HARDWARE

EXAMPLE: Model name. 5 Standard hardware

* Standard for B1 bushing : 2 nut, 1 locking ring, 1 lockwasher
 * For further information please consult sales representativity.

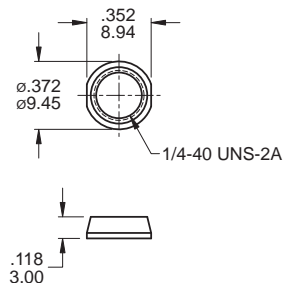
1/4 NUT (Std.)

Model name. MNU-1M01A



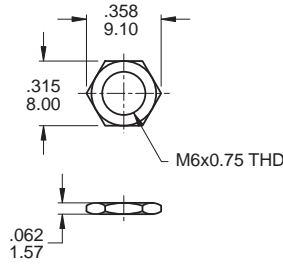
DRESS NUT

Model name. MNU-1M29
 MOQ: 10K



METRIC NUT (Std.)

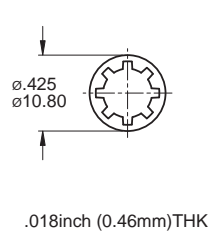
Model name. MNU-1M04



Available with bushing B8 only.

LOCKWASHER (Std.)

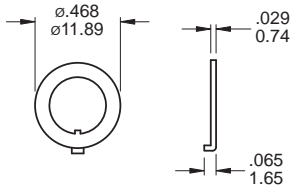
Model name. MNU-1M03



For 1/4-40 UNS-2A bushing

LOCKING RING (Std.)

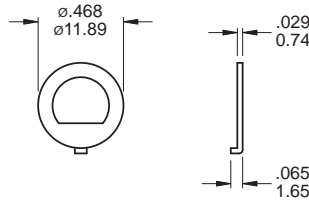
Model name. MNU-1M02



For 1/4-40 UNS-2A bushing

LOCKING RING (Std.)

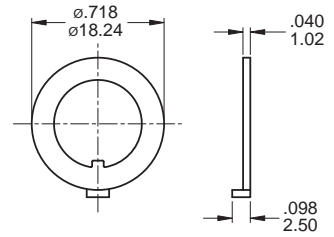
Model name. MNU-1M11



Available with bushing B5 only.

LOCKING RING (Std.)

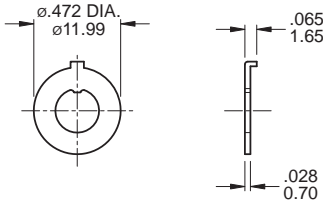
Model name. MNU-1M08



For 15/32-32 UNS-2A bushing

LOCKING RING (Std.)

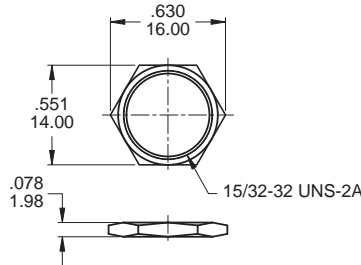
Model name. MNU-1M05



Available with bushing B8 only.

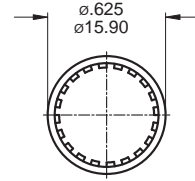
15/32 NUT (Std.)

Model name. MNU1M07



LOCKWASHER (Std.)

Model name. MNU-1M09



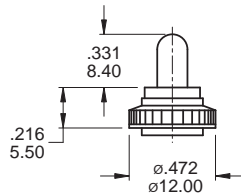
For 15/32-32 UNS-2A bushing

RUBBER HOOD SEALING

Model name.

E1-RUBBER HOOD(Inch) (Std.)

K1-RUBBER HOOD-K1(Metric) MOQ: 2K

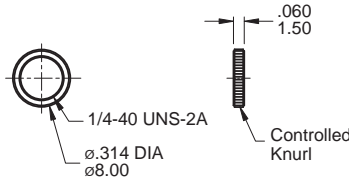


Note: For actuator T1, T2 and B1, B3, B5, B6 Bushing only

DRESS NUT

Model name. MNU-1M18

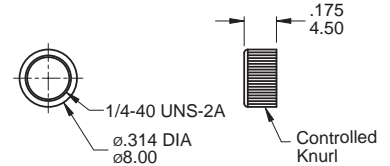
MOQ: 10K



DRESS NUT

Model name. MNU-1M24

MOQ: 10K



▼ CONTACT & TERMINAL PLATING OPTIONS

| | CONTACT PLATING | TERMINAL PLATING | RATINGS |
|---|------------------|------------------|---|
| Q | Silver | Silver | 5 Amps with resistant load @ 120VAC or 28VDC |
| C | Gold over Silver | Gold over silver | 2 Amps with resistant load @ 250VAC |
| R | Gold | Gold | 0.4 Volt - Amps (VA) max. @ 20V max. (AC or DC) |

▼ SOLDERING PROCESS

MANUAL SOLDERING: Use 30 watts soldering iron and controlled the temperature at 350°.

Duration of solder immersion: Max. 5 sec.

WAVE SOLDERING: Recommend soldering temperature: 260 ± 5°C

Duration of solder immersion: Max. 5 sec. (PCB thickness is 1.6mm)