



## SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material See page 11.

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

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

**INSULATION RESISTANCE:** 1,000 MΩ min.

**DIELECTRIC STRENGTH:** 1,000 Vrms min. @ sea level.

**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 alloy, Silver or gold plated.

(See Page 11)



## HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	TERMINAL PLATING	SEAL	RoHS SOLDERING
Model NO.	Actuator		Terminations	Terminal plating	Seal	RoHS soldering
1MS1 SP ON-NONE-ON	T1 10.41 high		M1 Solder lug	Q Silver	E EPOXY (std)	
1MS2 SP ON-NONE-(ON)	T2 5.08 high		M2 PC thru-hole	R Gold	N NO EPOXY	
1MS3 SP ON-OFF-ON	T3 13.97 high		M3 Quick connect	C Gold over silver		
1MS4 SP (ON)-OFF-(ON)	T4 16.26 high		M51 18.70 high, wire wrap			
1MS5 SP ON-OFF-(ON)	T5 21.34 high		M52 24.20 high, wire wrap			
1MD1 DP ON-NONE-ON	T6 Flatted,anti-rotation		M53 10.55 high, wire wrap			
1MD2 DP ON-NONE-(ON)	T61 Flatted,anti-rotation		M54 26.97 high, wire wrap			
1MD3 DP ON-OFF-ON	T62 Lever handle with cap		M6 Right angle, PC thru-hole			
1MD4 DP (ON)-OFF-(ON)	T63 Flatted,anti-rotation		M6N Right angle, Snap-in, PC thru-hole			
1MD5 DP ON-OFF-(ON)	T66 13.49 high		M7 Vertical right angle, PC thru-hole			
1MD6 DP ON-ON-ON	T7 12.37 high, 15/32 bushing		VS2 11.68 high, V-bracket			
1MD7 DP (ON)-ON-(ON)	T8 17.56 high, 15/32 bushing		V2N 11.68 high, Snap-in. V-bracket			
1MD8 DP ON-ON-(ON)	T88 17.5 high, 15/32 bushing		VS3 16.00 high, V-bracket			
1M31 3P ON-NONE-ON	T9 Plastic, 21.3 high		VS4 11.68 high, V-bracket			
1M32 3P ON-NONE-(ON)	TL1 Locking lever 16.00 high		VS5 16.00 high, V-bracket			
1M33 3P ON-OFF-ON	TL2 Locking lever 16.26 high		Bushing			
1M34 3P (ON)-OFF-(ON)	TL3 Locking lever 17.28 high		B1 8.89 high, keyway (thd std)			
1M35 3P ON-OFF-(ON)			B2 8.89 high, keyway (non-thd)			
1M41 4P ON-NONE-ON			B3 7.10 high, keyway (thd)			
1M42 4P ON-NONE-(ON)			B4 7.10 high, keyway (non-thd)			
1M43 4P ON-OFF-ON			B5 7.52 high, flat (torque)			
1M44 4P (ON)-OFF-(ON)			B6 8.00 high, keyway (torque)			
1M45 4P ON-OFF-(ON)			B7 8.89 high, flat (thd std)			
1M46 4P ON-ON-ON			B8 8.89 high, keyway (metric thd)			
1M47 4P (ON)-ON-(ON)			B9 7.52 high, flat (splash proof)			
1M48 4P ON-ON-(ON)			B11 7.55 high, keyway (thd std)			
			B12 7.55 high, keyway (non-thd)			
			B13 11.38 high, keyway (15/32 bushing)			
			B14 11.90 high, flat (splash proof)			
			B15 7.55 high, flat (thd std)			
			B16 7.55 high, flat (non-thd)			
			B17 3.50 high, keyway			
			B18 11.38 high, keyway (15/32 bushing)			
			B20 11.38 high, keyway (15/32 bushing)			
			B25 8.00 high, keyway, locking lever (thd)			
			B26 8.00 high, keyway, locking lever (non-thd)			
			B52 11.70 high, flat (15/32 bushing)			



# 1M Series

Miniature Toggle Switches

## SWITCH FUNCTION

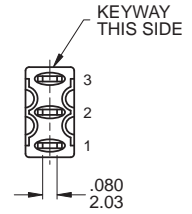
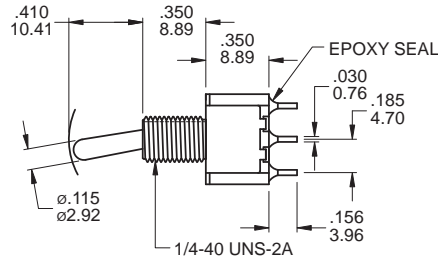
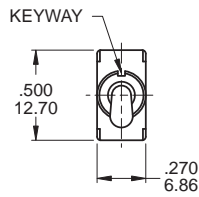
NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	Q1111	1MS1	ON	NONE	ON		N/A	
	Q1112	1MS2	ON	NONE	(ON)	2-3		2-1
	Q1113	1MS3	ON	OFF	ON			
	Q1114	1MS4	(ON)	OFF	(ON)		OPEN	
	Q1115	1MS5	ON	OFF	(ON)			
DP	Q1121	1MD1	ON	NONE	ON		N/A	
	Q1122	1MD2	ON	NONE	(ON)	2-3,5-6		2-1,5-4
	Q1123	1MD3	ON	OFF	ON			
	Q1124	1MD4	(ON)	OFF	(ON)		OPEN	
	Q1125	1MD5	ON	OFF	(ON)			
	Q1126	1MD6	ON	ON	ON			
	▲ Q1127	1MD7	(ON)	ON	(ON)	2-3,5-6	2-3,5-4	2-1,5-4
	▲ Q1128	1MD8	ON	ON	(ON)			
3P	Q1131	1M31	ON	NONE	ON		N/A	
	Q1132	1M32	ON	NONE	(ON)	2-3,5-6,8-9		2-1,5-4,8-7
	Q1133	1M33	ON	OFF	ON			
	Q1134	1M34	(ON)	OFF	(ON)		OPEN	
	Q1135	1M35	ON	OFF	(ON)			
4P	Q1141	1M41	ON	NONE	ON		N/A	
	Q1142	1M42	ON	NONE	(ON)	2-3,5-6,8-9,11-12		2-1,5-4,8-7,11-10
	Q1143	1M43	ON	OFF	ON			
	Q1144	1M44	(ON)	OFF	(ON)		OPEN	
	Q1145	1M45	ON	OFF	(ON)			
	Q1146	1M46	ON	ON	ON			
	▲ Q1147	1M47	(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
	▲ Q1148	1M48	ON	ON	(ON)			

( ) = MOMENTARY

▲ Please check the availability in advance before order

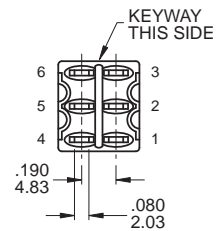
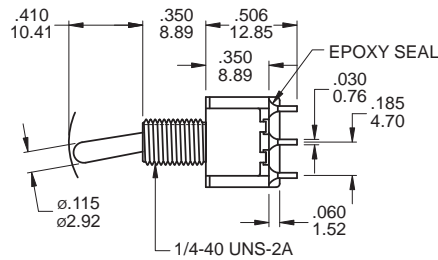
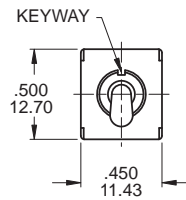
1M Toggle Switches

POLE OPTIONS



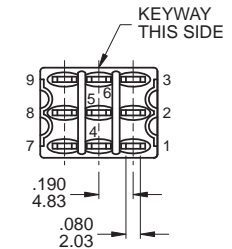
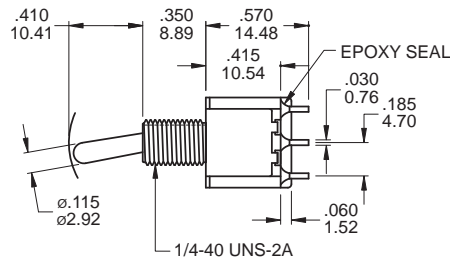
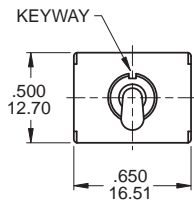
SPDT

Part No. Shown : 1MS1T1B1M1QES



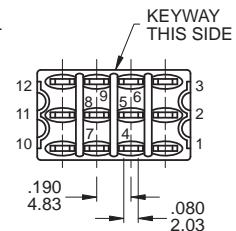
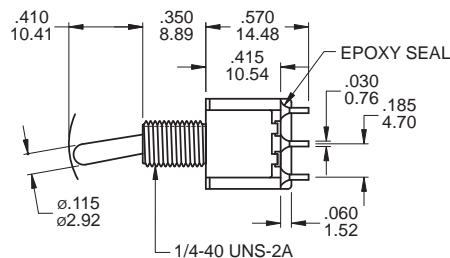
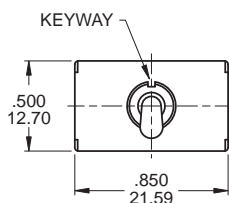
DPDT

Part No. Shown : 1MD1T1B1M1QES



3PDT

Part No. Shown : 1M31T1B1M1QES



4PDT

Part No. Shown : 1M41T1B1M1QES



1M  
Toggle Switches

# 1M Series

Miniature Toggle Switches

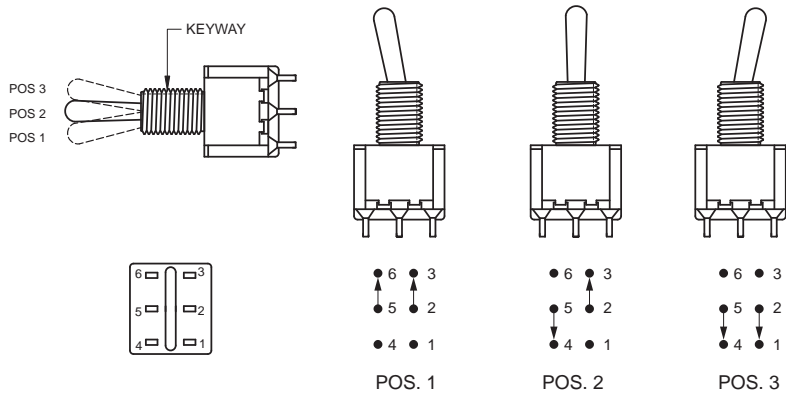
## 3-WAY SWITCH

## 3-Way Wiring Diagram Schematics

1M Toggle Switches

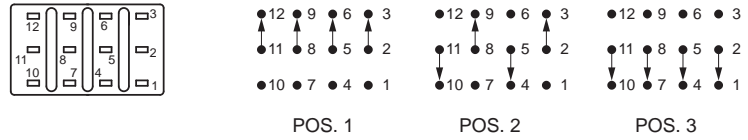
### SINGLE POLE, 3 POSITION

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



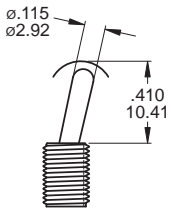
### DOUBLE POLE, 3 POSITION

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

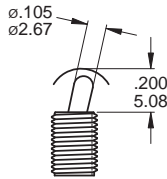


## ACTUATOR OPTIONS

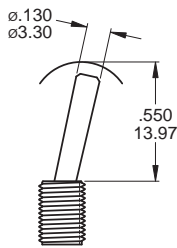
### T1 STD



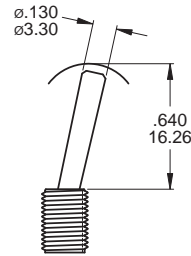
### T2



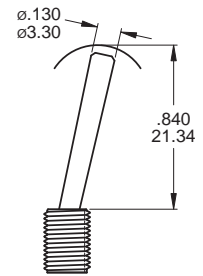
### T3



### T4



### T5



**NOTE :** T1 ~ T5 Actuator shown with standard B1 Bushing ;

Add .070 (1.78) for B3 Bushing ;

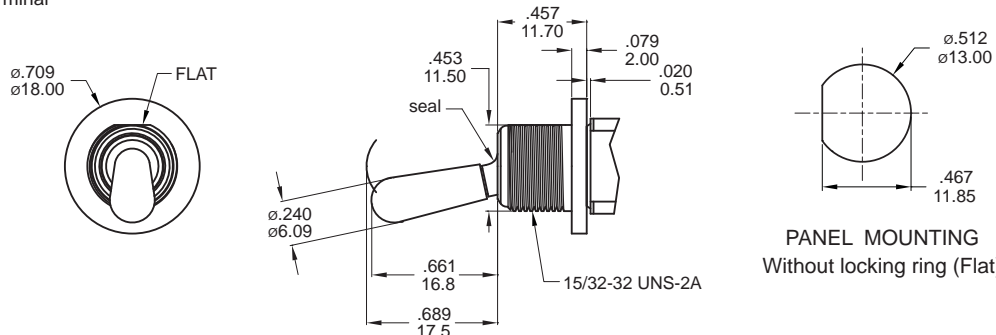
Subtract .020 (0.51) for B6 Bushing ;

Std for M1 , M2 Terminal sub .016 (0.40) for M6 , M7 , VSX (Exclude B1/B2 bushing)

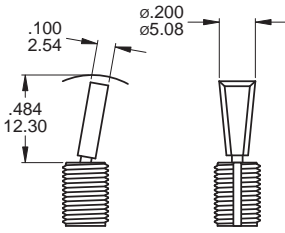
### T88B52

### SPLASH PROOF

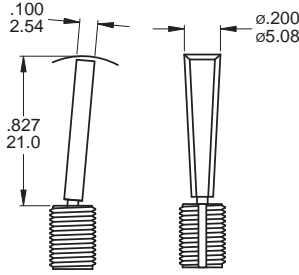
Std SPDT for M1.M2 Terminal



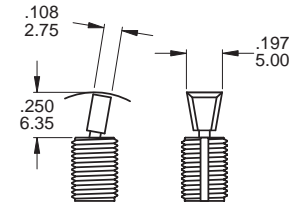
**T6** FLATTED WITH ANTIROTATION



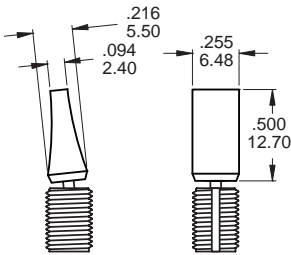
**T61**



**T63**



**T62**



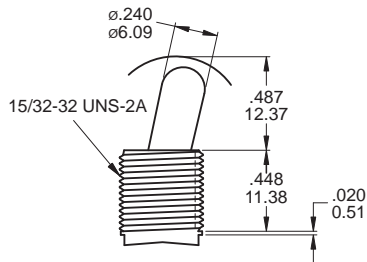
**Plastic No.Color :**

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

**NOTE:** T6,T61,T62 ,T63 use with B11, B12, B15, B16 bushing only.

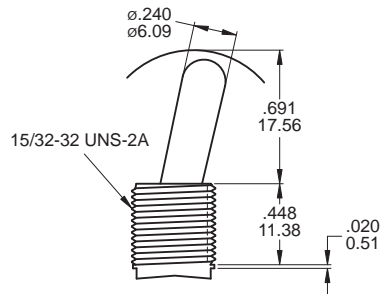
\* Besides standard color, other colors need to check stocks available.

**T7**



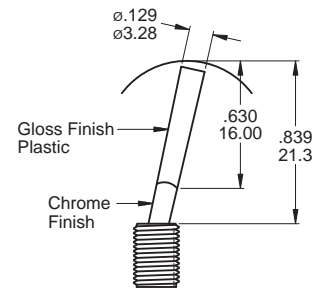
Use with B13 bushing  
Use with B18,B20 the lever is antirotation and the size of lever is 13.00mm

**T8**



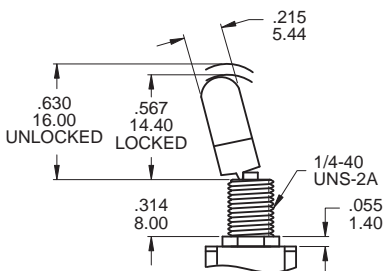
Use with B13 bushing  
Use with B18,B20 the lever is antirotation and the size of lever is 18.00mm

**T9**

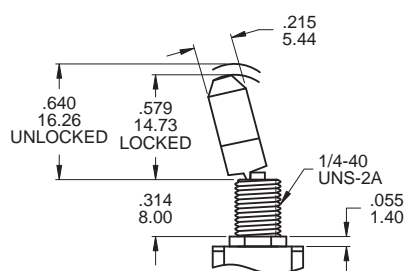


B1 / B2 bushing std with black(T92) and red(T93) color only(std.)

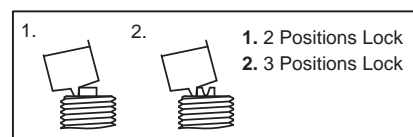
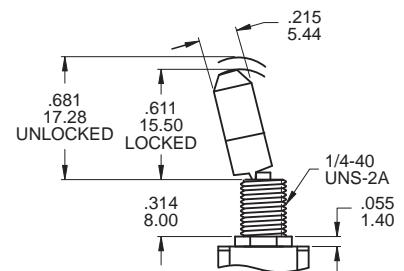
**TL1B25 THD STD**  
**B26 NON-THD**



**TL2B25 THD STD**  
**B26 NON-THD**



**TL3B25 THD STD**  
**B26 NON-THD**



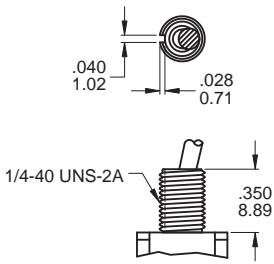
# 1M Series

Miniature Toggle Switches

## BUSHING OPTIONS

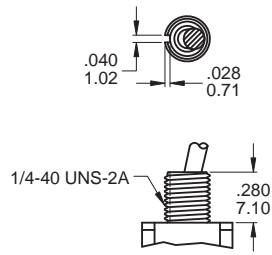
1M  
Toggle Switches

**B1 THD STD**  
**B2 NON-THD**



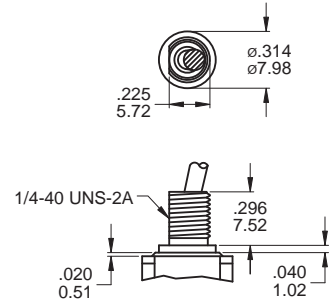
Subtract .016 (0.40) for M6, M7 and VS2-5 termination options.

**B3 THD**  
**B4 NON-THD**

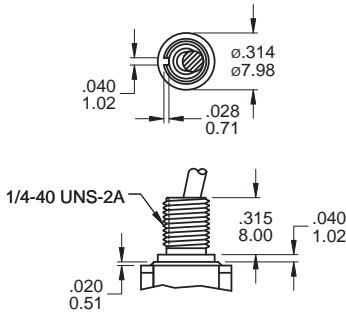


B4 is standard for M6, M7 and VS2-5 termination options.

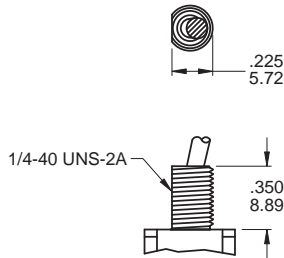
**B5 HIGH TORQUE**



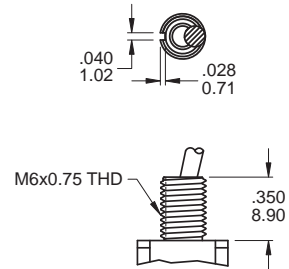
**B6 HIGH TORQUE**



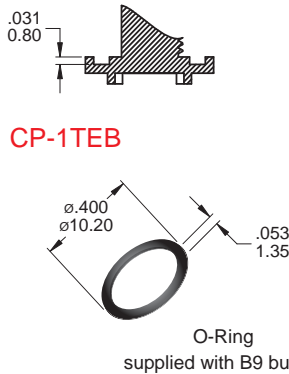
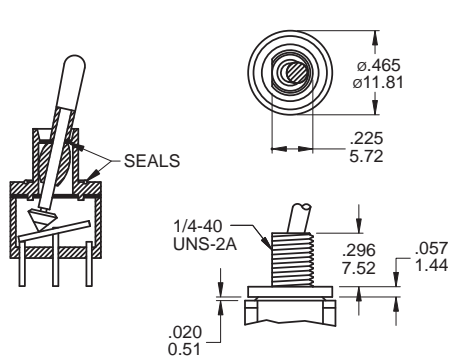
**B7 THD STD**



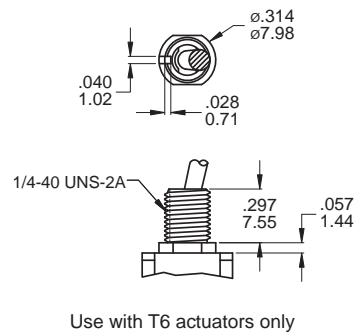
**B8 METRIC THD**



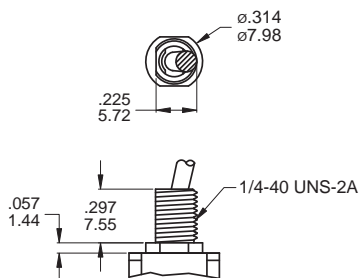
**B9 SPLASH PROOF**



**B11 THD STD**  
**B12 NON-THD**

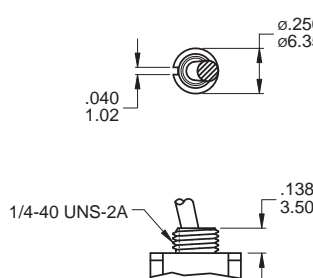


**B15 THD STD**  
**B16 NON-THD**

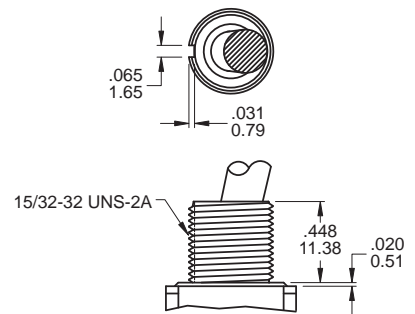


Use with T6 actuators only

**B17**

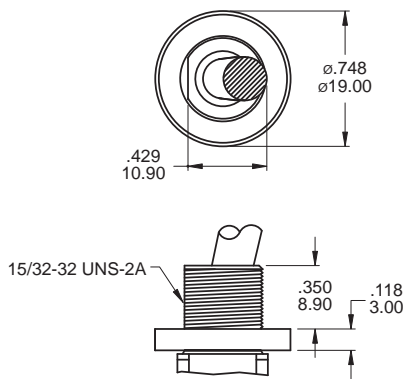


**B13**



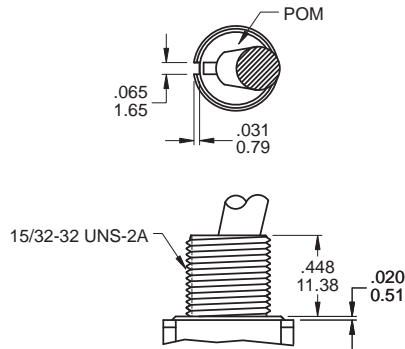
Use with T7, T8 actuators only  
B13 Bear strength from top of actuator  
up to 10kg aside up to 15kg

## B14 SPLASH PROOF



Use with T7, T8 actuators only

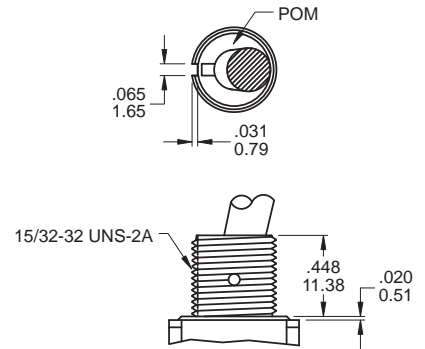
## B18



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

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

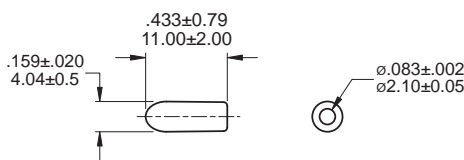
## B20



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

## OPTIONAL TOGGLE CAP

### CP-1T1X



Use with T1 actuator

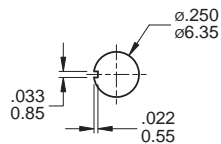
### CAP Color :

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

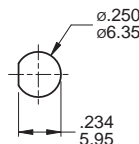
\* Besides standard color, other colors need to check stocks available.

## PANEL MOUNTING

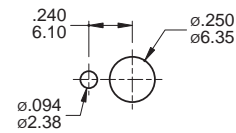
### 1/4 IN BUSHING



Without locking ring (Keyway)

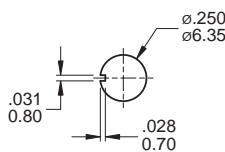


Without locking ring (Flat)

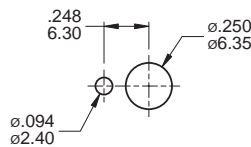


With standard locking ring.

### METRIC BUSHING

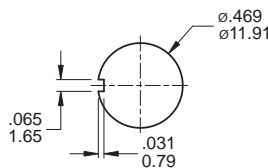


Without locking ring (Keyway)

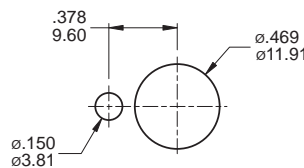


With standard locking ring.

### 15/32 IN BUSHING

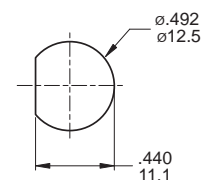


Without locking ring (Keyway)



With standard locking ring.

### SPLASH PROOF BUSHING



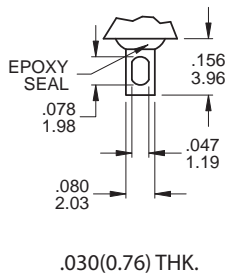
Without locking ring (Flat)

# 1M Series

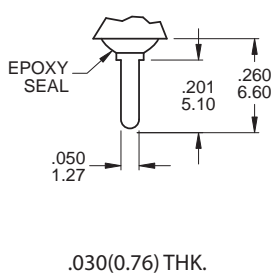
Miniature Toggle Switches

## TERMINATION OPTIONS

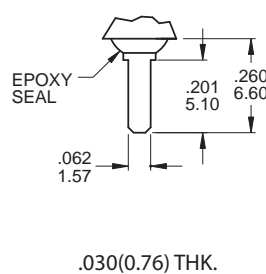
### M1 Solder lug



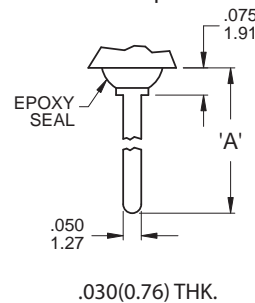
### M2 PC Thru-hole



### M3 Quick connect



### M5 Wire Wrap



## OTHER TERMINATION 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

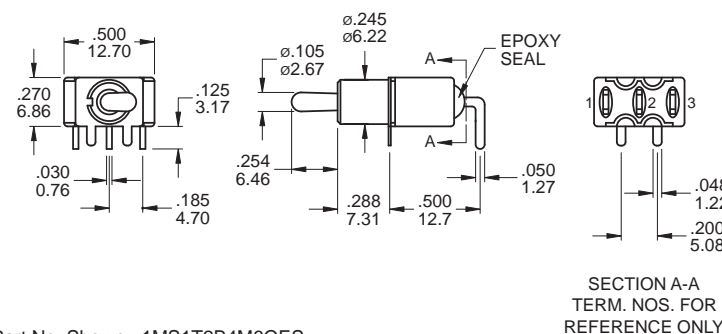
**VS5** Vertical bracket P.C. Mount

**M6N** Right angle P.C. Mount with snap-in bracket

**V2N** Vertical bracket P.C. Mount with snap-in bracket

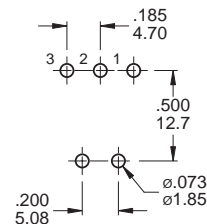
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)

### M6



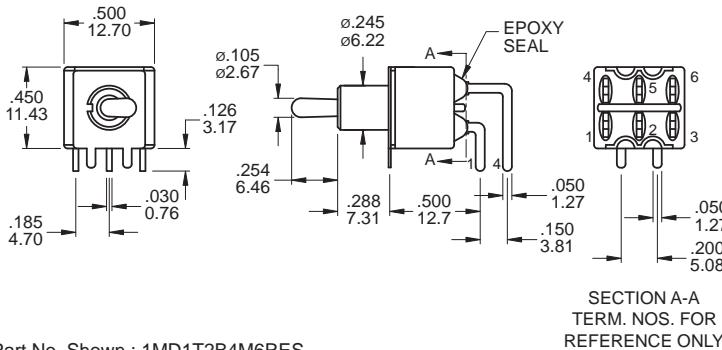
Part No. Shown : 1MS1T2B4M6QES

#### P.C. MOUNTING



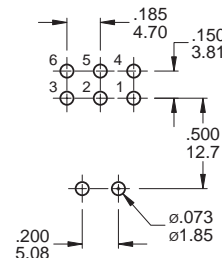
### SPDT

### M6



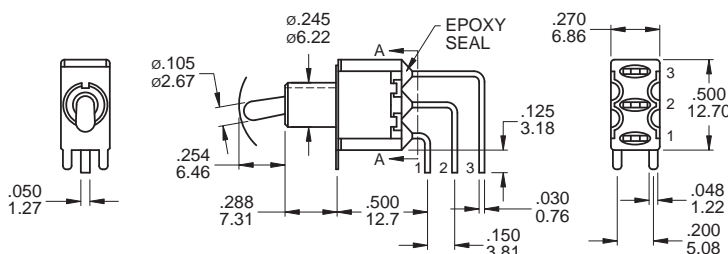
Part No. Shown : 1MD1T2B4M6RES

#### P.C. MOUNTING



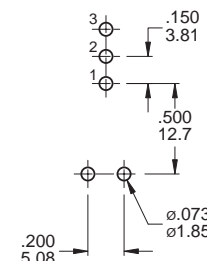
### DPDT

### M7



Part No. Shown : 1MS1T2B4M7QES

#### P.C. MOUNTING

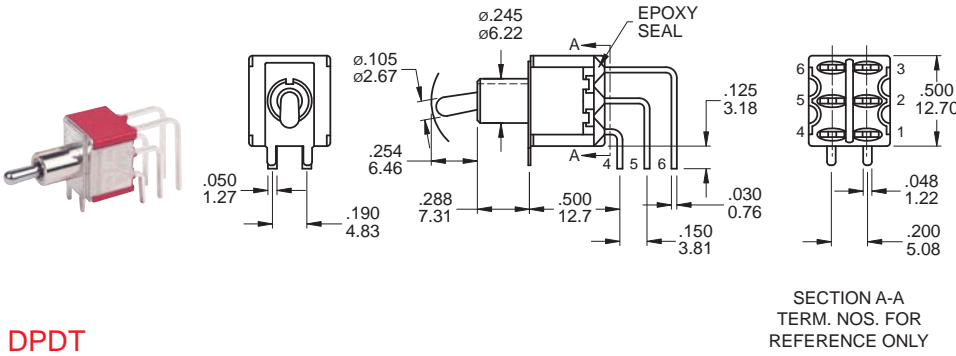


### SPDT

SECTION A-A  
TERM. NOS. FOR  
REFERENCE ONLY



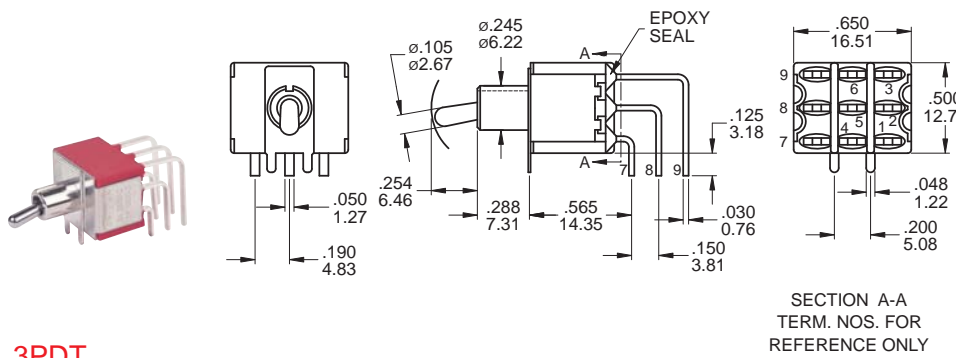
## M7



## DPDT

Part No. Shown : 1MD1T2B4M7QES

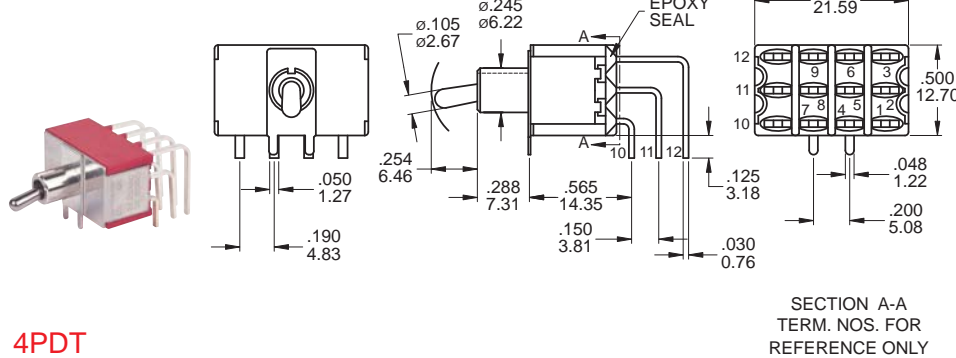
## M7



## 3PDT

Part No. Shown : 1M31T2B4M7QES

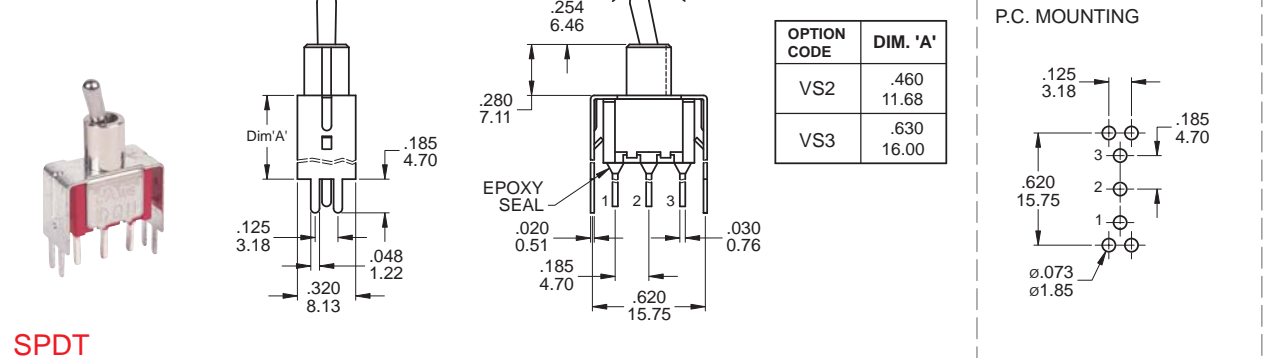
## M7



## 4PDT

Part No. Shown : 1M41T2B4M7QES

## VS2 - VS3



## SPDT

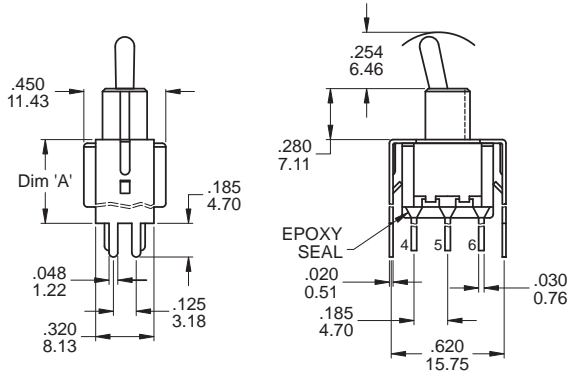
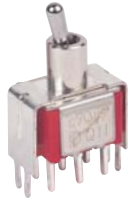
Part No. Shown : 1MS1T2B4VS2QES

# 1M Series

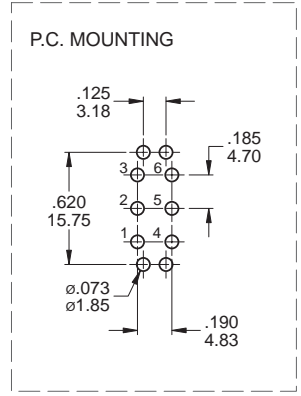
Miniature Toggle Switches

1M  
Toggle Switches

## VS2 - VS3



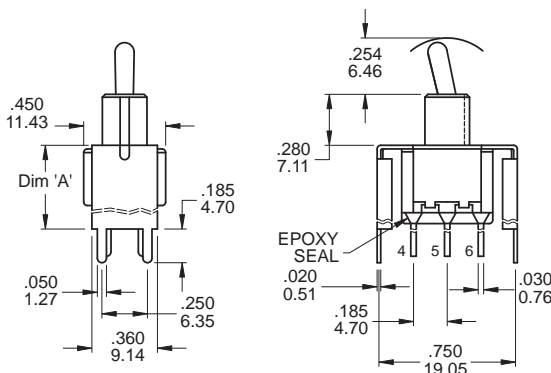
OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00



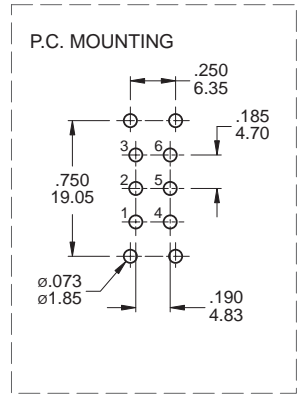
## DPDT

Part No. Shown : 1MD1T2B4VS3QES

## VS5



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

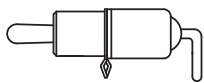
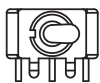


## DPDT

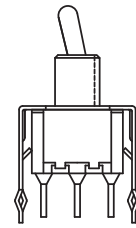
Part No. Shown : 1MD1T2B4VS5QES

## SNAP-IN TERMINATION OPTIONS

### M6N

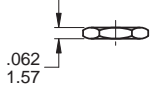
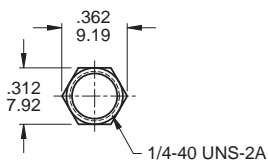


### V2N



## HARDWARE

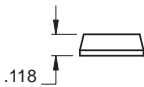
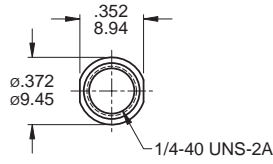
### 1/4 NUT



MNU-1M01A

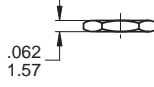
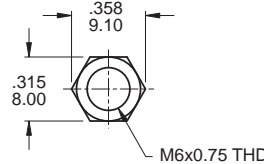
Supplied standard with B1, B3, B5, B6 and B9 options

### DRESS NUT



MNU-1M29

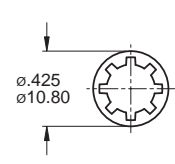
### METRIC NUT



MNU-1M04

Supplied standard with B8 metric bushing

### LOCKWASHER

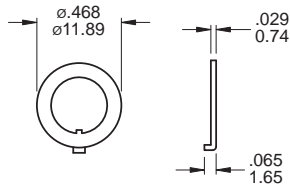


MNU-1M03

Supplied standard with B1 / B3 bushing



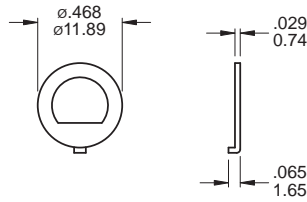
### LOCKING RING



**MNU-1M02**

Locking ring supplied standard

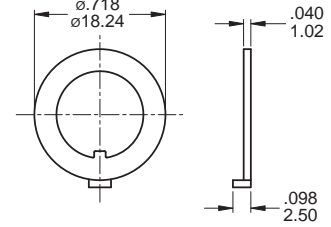
### LOCKING RING



**MNU-1M11**

Locking ring supplied with B5 bushing

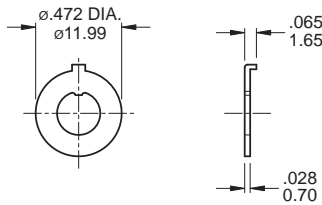
### LOCKING RING



**MNU-1M08**

Locking ring supplied with B13,B18,B20 bushing

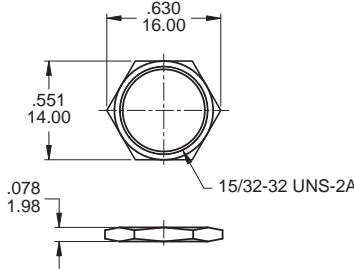
### LOCKING RING



**MNU-1M05**

Locking ring supplied with B8 bushing

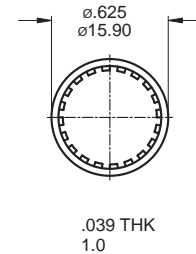
### 15/32 NUT



**MNU1M07**

Supplied standard with B13 bushing

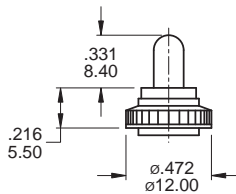
### LOCKWASHER



**MNU-1M09**

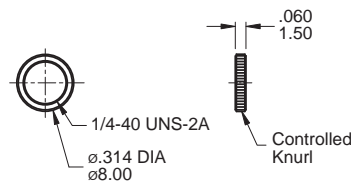
Supplied standard with B13 bushing

### OPTIONAL RUBBER HOOD SEALING



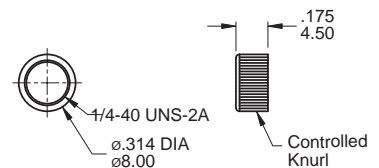
K1=Metric  
E1=Inch (Std.)  
for actuator T1, T2 and  
B1, B3, B5, B6 Bushing only

### DRESS NUT



**MNU-1M18**

### DRESS NUT



**MNU-1M24**

## CONTACT MATERIAL OPTIONS

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

## 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: 270 ± 5°C

Duration of Solder Immersion: Max 5 sec. (PCB is 1.6mm in thickness)

# Mouser Electronics

Authorized Distributor

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## Dailywell:

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[1MD3T6B11M1QES](#) [1MS2T1B1M2QES](#) [1MS3T6B11M2QES](#) [1MS5T1B1M1QES](#)