



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:

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	CONTACT MATERIAL	SEAL	RoHS SOLDERING
Model NO. 1MS1 SP On-None-On 1MS2 SP On-None-Mom 1MS3 SP On-Off-On 1MS4 SP Mom-Off-Mom 1MS5 SP On-Off-Mom 1MD1 DP On-None-On 1MD2 DP On-None-Mom 1MD3 DP On-Off-On 1MD4 DP Mom-Off-Mom 1MD5 DP On-Off-Mom 1MD6 DP On-On-On 1MD7 DP Mom-On-Mom 1MD8 DP On-On-Mom 1M31 3P On-None-On 1M32 3P On-None-Mom 1M33 3P On-Off-On 1M34 3P Mom-Off-Mom. 1M35 3P On-Off-Mom 1M41 4P On-None-On 1M42 4P On-None-Mom 1M43 4P On-Off-On 1M44 4P Mom-Off-Mom 1M45 4P On-Off-Mom 1M46 4P On-On-On 1M47 4P Mom-On-Mom 1M48 4P On-On-Mom	Actuator T1 10.41 high T2 5.08 high T3 13.97 high T4 16.26 high T5 21.34 high T6 Flatted,anti-rotation 12.30 high T61 Flatted,anti-rotation 21.0 high T62 Lever handle with cap 13.49 high T63 Flatted,anti-rotation 6.35 high T7 12.37 high, 15/32 bushing T8 17.56 high, 15/32 bushing T9 Plastic, 21.3 high TA 26.30 high lever handle with cap, 15/32 bushing T11 Plastic, 12.2 high TL1 Locking lever 16.00 high TL2 Locking lever 16.26 high TL3 Locking lever 17.28 high	Bushing B1 8.89 high, keyway (thd std) B2 8.89 high, keyway (non-thd) B3 7.10 high, keyway (thd) B4 7.10 high, keyway (non-thd) B5 7.52 high, flat (torque) B6 8.00 high, keyway (torque) B7 8.89 high, flat (thd std) B8 8.89 high, keyway (metric thd) B9 7.52 high, flat (splash proof) 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 (nin-thd)	Terminations M1 Solder lug M2 PC thru-hole M3 Quick connect M51 18.70 high, wire wrap M52 24.20 high, wire wrap M53 10.55 high, wire wrap M54 26.97 high, wire wrap M6 Right angle, PC thru-hole M6N Right angle, Snap-in, PC thru-hole M7 Vertical right angle, PC thru-hole VS2 11.68 high, V-bracket V2N 11.68 high, Snap-in. V-bracket VS3 16.00 high, V-bracket VS4 11.68 high, V-bracket VS5 16.00 high, V-bracket	Contact material Q Silver R Gold G Gold, pure-tin S Silver, pure-tin C Gold over silver K Gold over silver, pure-tin	Seal E EPOXY (std) N NO EPOXY	RoHS soldering ☐ RoHS Compliant S Rohs & Lead Free F Halogen Free+RoHS

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			
	Q1113	1MS3	ON	OFF	ON			
	Q1114	1MS4	MOM	OFF	MOM		OPEN	
	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			
	Q1123	1MD3	ON	OFF	ON			
	Q1124	1MD4	MOM	OFF	MOM		OPEN	
	Q1125	1MD5	ON	OFF	MOM	2-3, 5-6		2-1, 5-4
	Q1126	1MD6	ON	ON	ON			
	* Q1127	1MD7	MOM	ON	MOM		2-3, 5-4	
	* 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			
	Q1133	1M33	ON	OFF	ON			
	Q1134	1M34	MOM	OFF	MOM		OPEN	
	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			
	Q1143	1M43	ON	OFF	ON			
	Q1144	1M44	MOM	OFF	MOM		OPEN	
	Q1145	1M45	ON	OFF	MOM	2-3, 5-6, 8-9, 11-12		2-1, 5-4, 8-7, 11-10
	Q1146	1M46	ON	ON	ON			
	* Q1147	1M47	MOM	ON	MOM		2-3, 5-4, 8-9, 11-10	
	* Q1148	1M48	ON	ON	MOM			

MOM = Momentary

* Please check the availability in advance before order

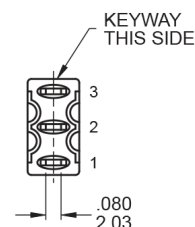
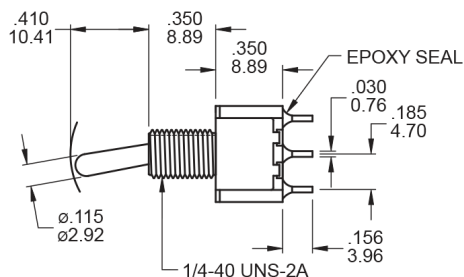
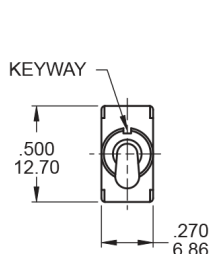
Minature Toggle Switches



Pole Options:



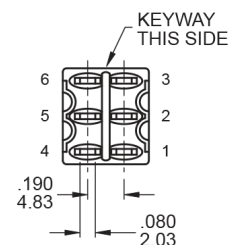
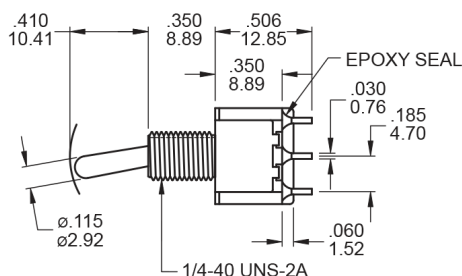
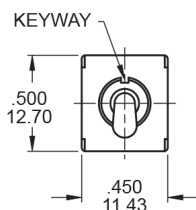
SPDT



Part No. Shown : 1MS1T1B1M1QE



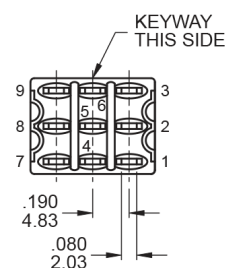
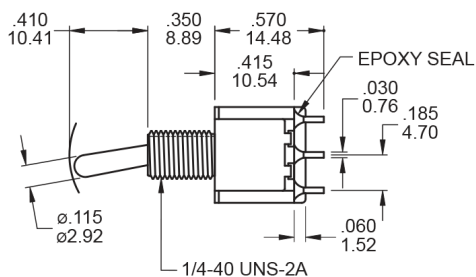
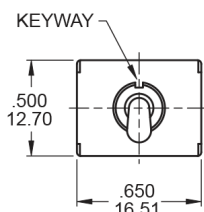
DPDT



Part No. Shown : 1MD1T1B1M1QE



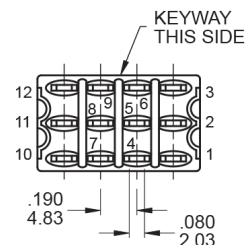
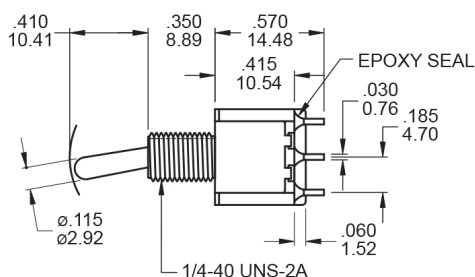
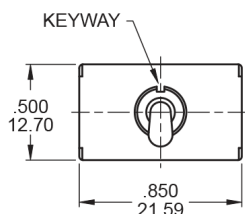
3PDT



Part No. Shown : 1M31T1B1M1QE



4PDT



Part No. Shown : 1M41T1B1M1QE

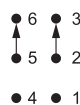
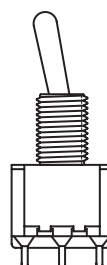
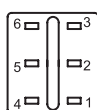
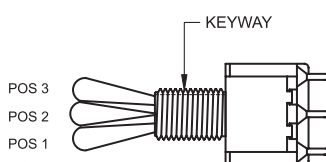
Minature Toggle Switches



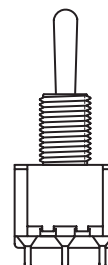
3-Way Switch:

SINGLE POLE, 3 POSITION

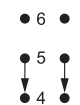
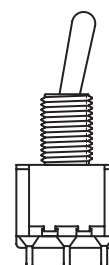
Model No.	POS 1	POS 2	POS 3
1MD6	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4



POS. 1



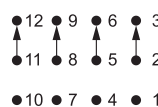
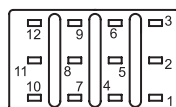
POS. 2



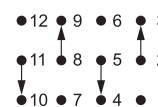
POS. 3

DOUBLE POLE, 3 POSITION

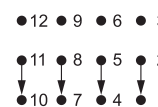
Model No.	POS 1	POS 2	POS 3
1M46	ON	ON	ON
Term. Comm.	2-3,5-6 8-9,11-12	2-3,5-4 8-9,11-10	2-1,5-4 8-7,11-10



POS. 1



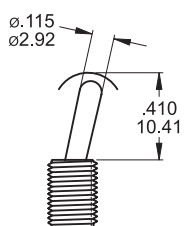
POS. 2



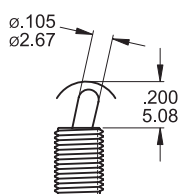
POS. 3

Actuator Options:

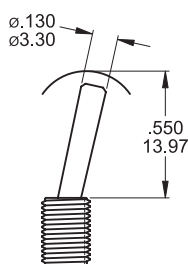
T1 STD



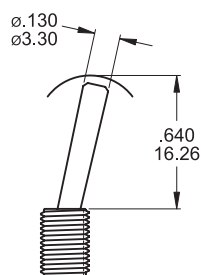
T2



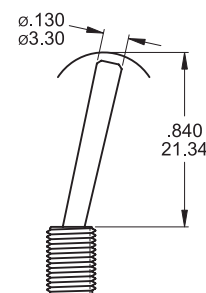
T3



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



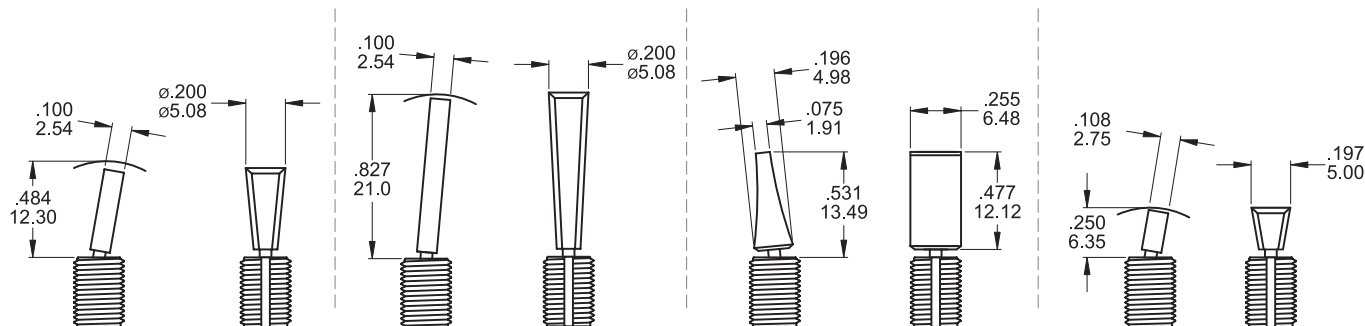
T6

T61

T62

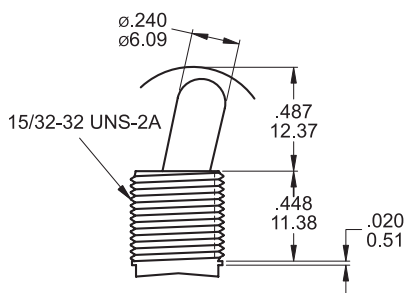
T63

Flatted with Antirotation



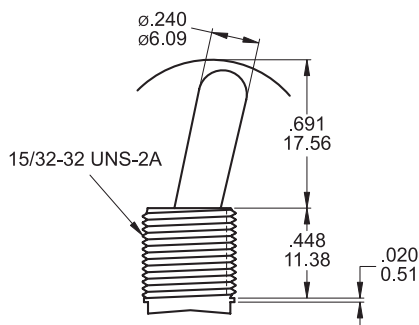
Note T6,T6-1,T6-2 ,T63 use with B11, B12, B15, B16 bushing only.

T7



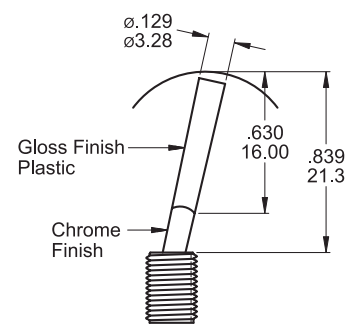
Use with B13 bushing
Use with B18,B20 the lever is antirotation
andthe size of lever is 13.00mm

T8



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

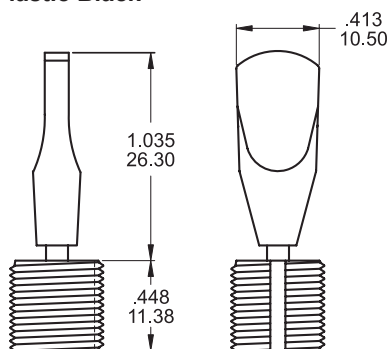
T9



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

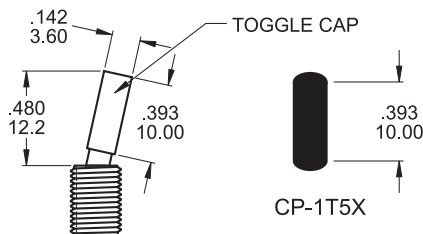
TA

Plastic Black



Use with B18 bushing only

T11



Note T11Actuator shown with standand 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 :

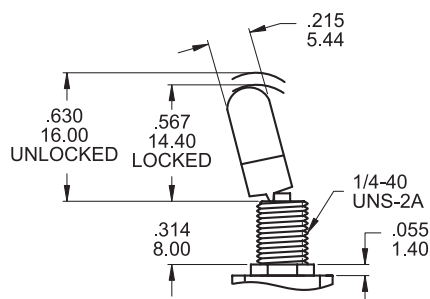
ITEM NO	COLOR
1	White
2	Black (Std)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

T62 , TA , T9 , T11
Actuator Only

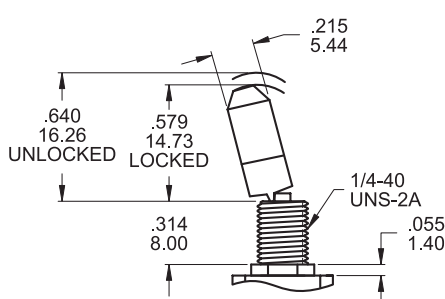
Minature Toggle Switches



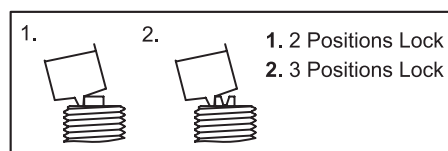
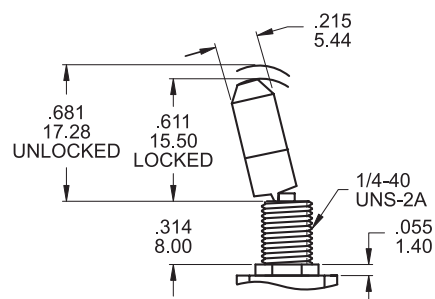
TL1B25



TL2B25

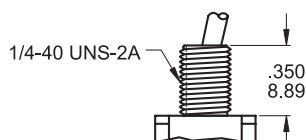
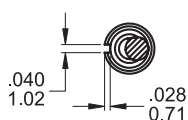


TL3B25

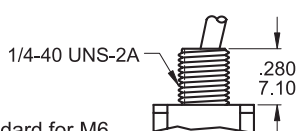
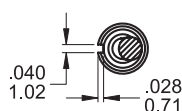


Bushing Options:

**B1 THD STD
B2 NON-THD**

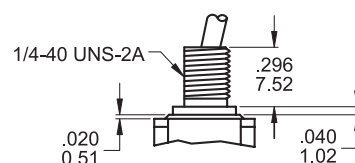
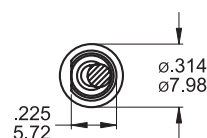


**B3 THD
B4 NON-THD**

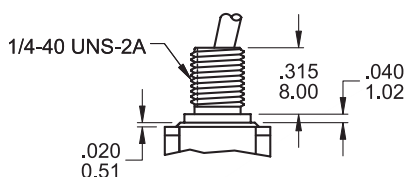
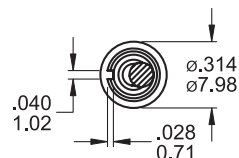


B4 is standard for M6, M7 and VS2~5 termination options.

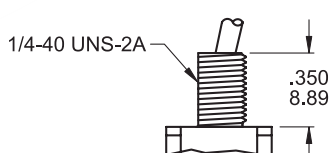
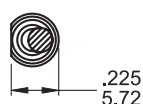
B5 HIGH TORQUE



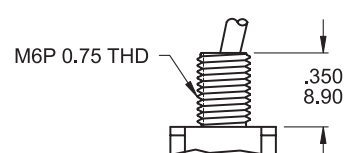
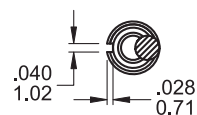
B6 HIGH TORQUE



B7 THD STD



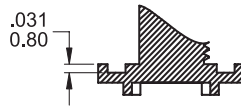
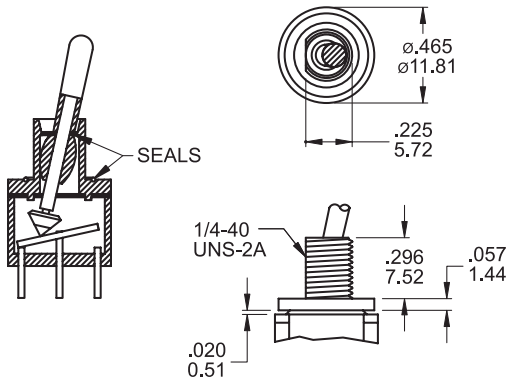
B8 METRIC THD



Minature Toggle Switches



B9 SPLASH PROOF

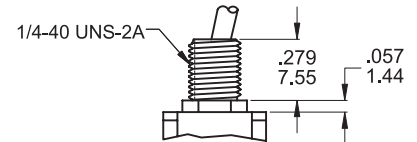
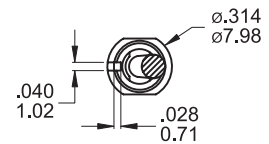


CP-1TEB



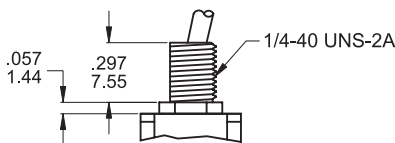
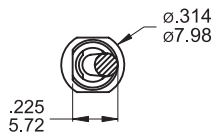
O-Ring
supplied with B9 bushing

B11 THD STD B12 NON-THD



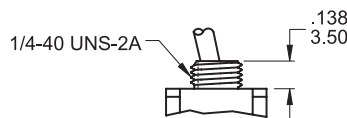
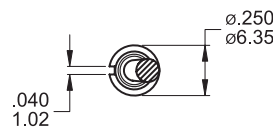
Use with T6 actuators only

B15 THD STD B16 NON-THD

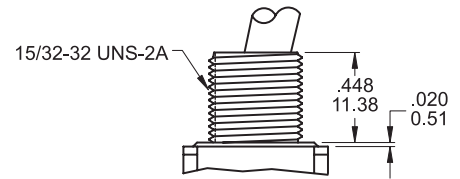
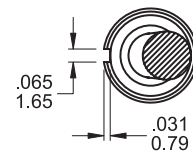


Use with T6 actuators only

B17

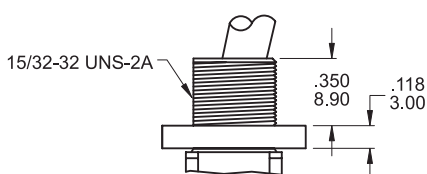
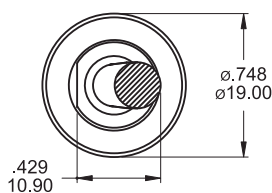


B13



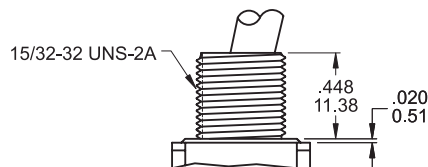
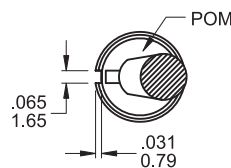
Use with T7,T8 actuators only
B13 Bear strength from top of actuator
up to 10kg aside up to 15kg

B14 SPLASH PROOF



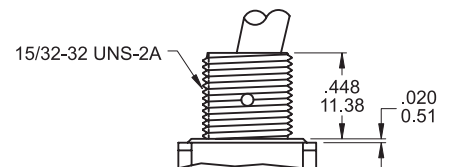
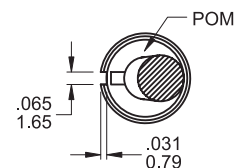
Use with T7 , T8 actuators only

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

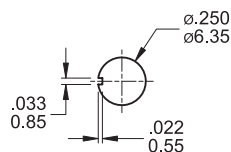
B18 , B20 Bear strength from top of actuator up to 20kg aside up to 15kg

Minature Toggle Switches

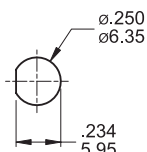


Panel Mounting:

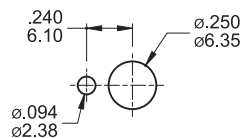
1/4" Bushing



Without locking ring (Keyway)

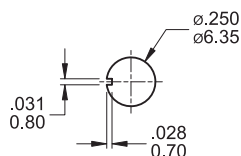


Without locking ring (Flat)

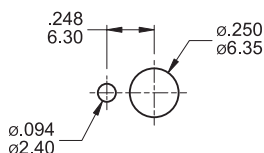


With standard locking ring.

Metric Bushing

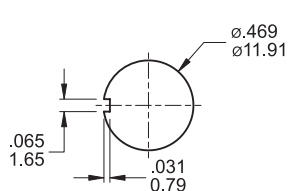


Without locking ring (Keyway)

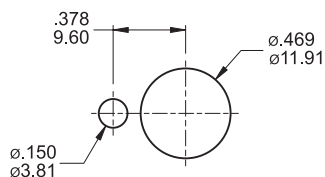


With standard locking ring.

15/32 Bushing

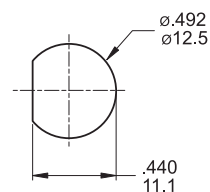


Without locking ring (Keyway)



With standard locking ring.

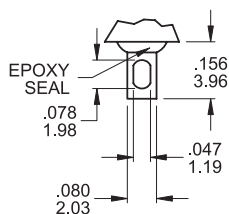
Splash Proof Bushing



Without locking ring (Flat)

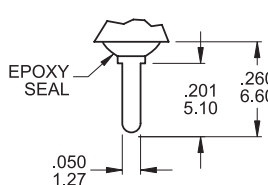
Termination Options:

M1 Solder lug



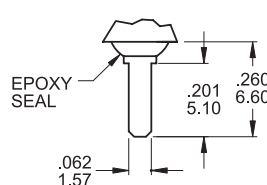
.030(0.76) THK.

M2 PC Thru-hole



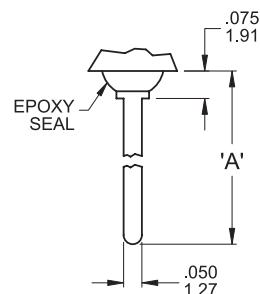
.030(0.76) THK.

M3 Quick connect



.030(0.76) THK.

M5 Wire Wrap

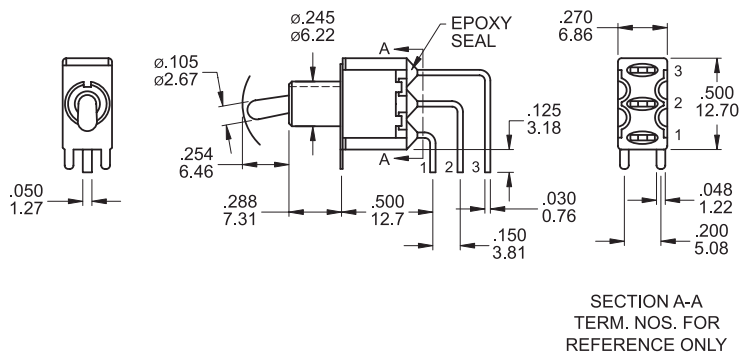


.030(0.76) THK.

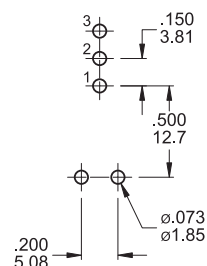
Minature Toggle Switches



M7



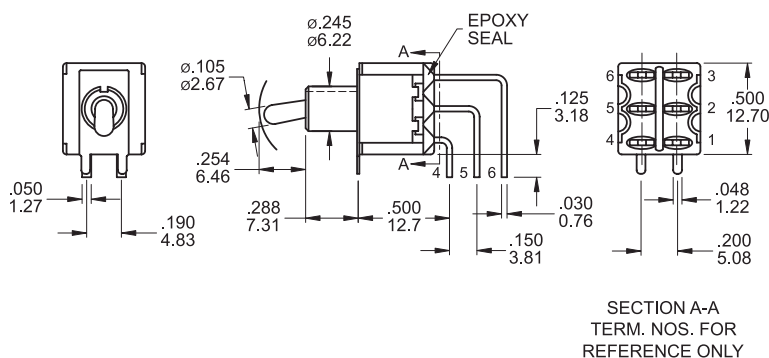
P.C. MOUNTING



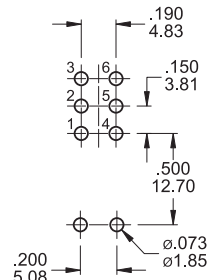
SPDT

Part No. Shown : 1MS1T2B4M7QE

M7



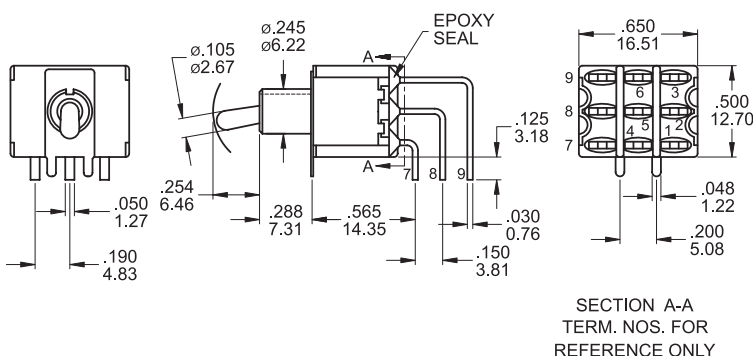
P.C. MOUNTING



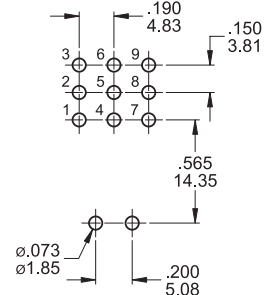
DPDT

Part No. Shown : 1MD1T2B4M7QE

M7



P.C. MOUNTING



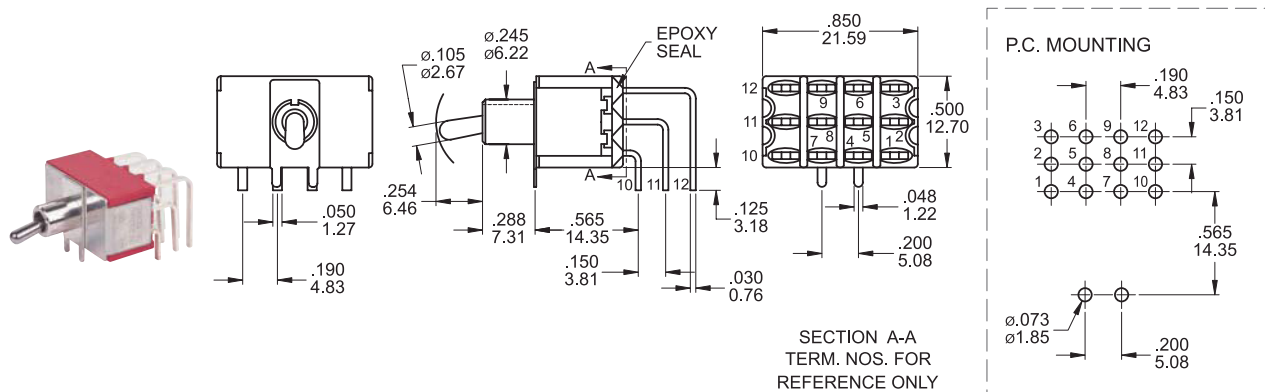
3PDT

Part No. Shown : 1M31T2B4M7QE

Minature Toggle Switches



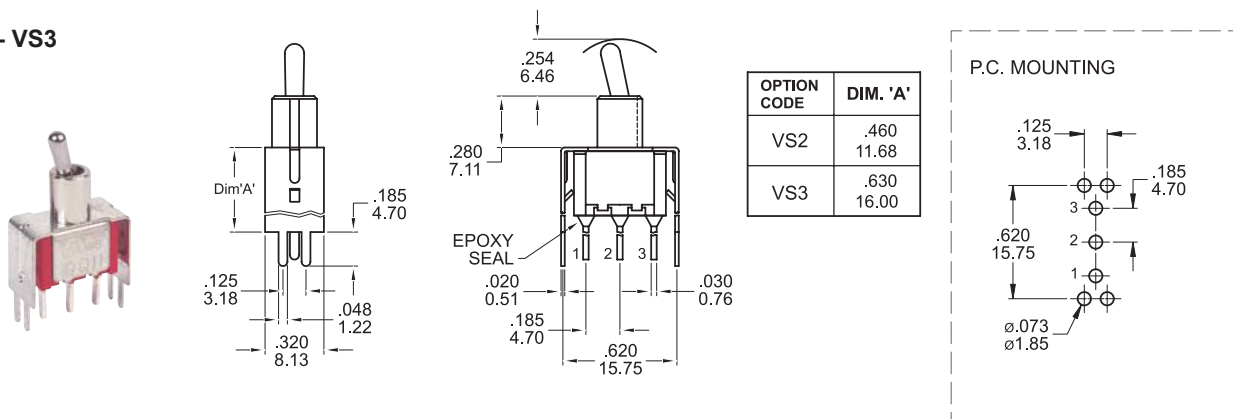
M7



4PDT

Part No. Shown : 1M41T2B4M7QE

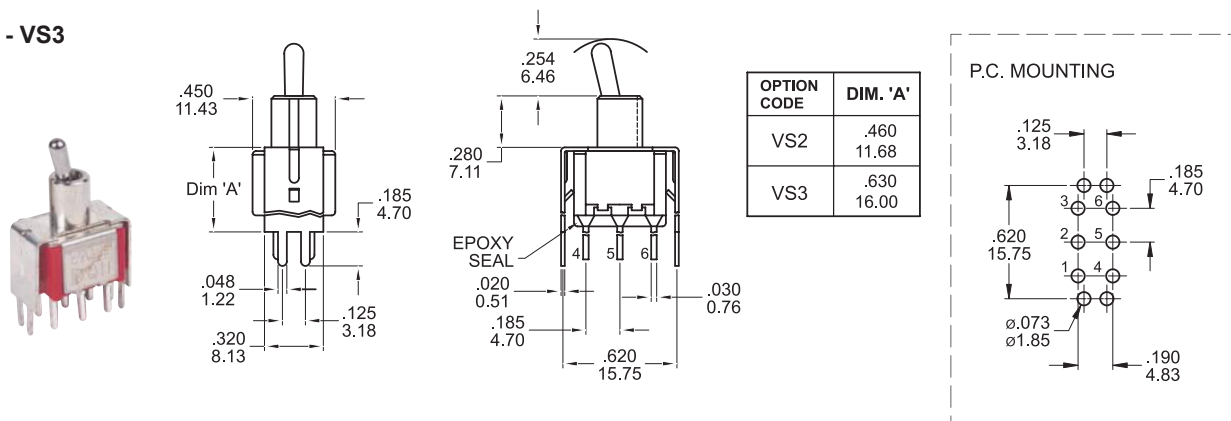
VS2 - VS3



SPDT

Part No. Shown : 1MS1T2B4VS2QE

VS2 - VS3

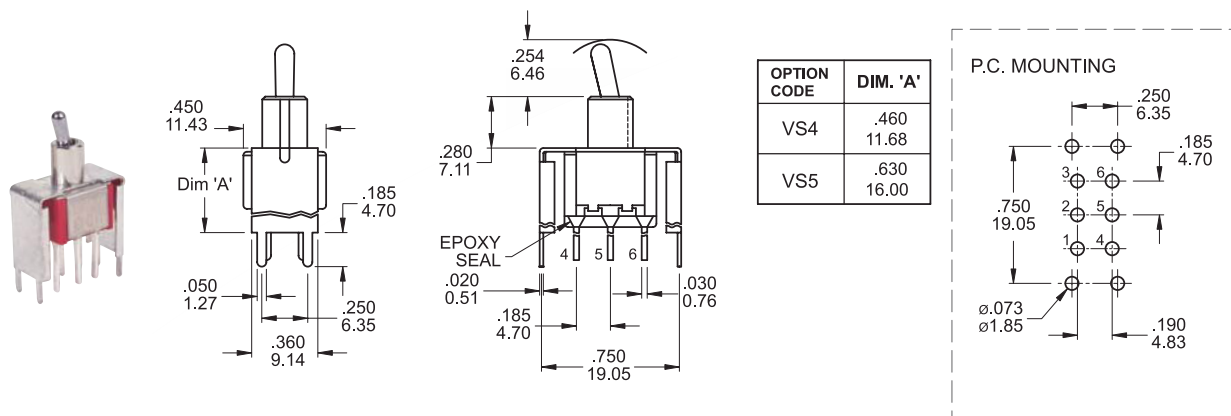


DPDT

Part No. Shown : 1MD1T2B4VS3QE

Minature Toggle Switches

VS5



DPDT

Part No. Shown : 1MD1T2B4VS5QE

Snap-In Termination Options:

M6N

V2N



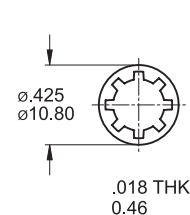
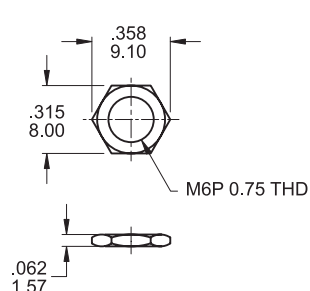
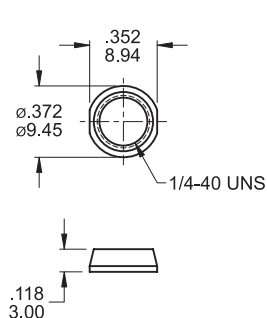
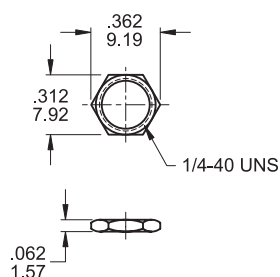
Hardware:

1/4 Nuts HDW2

Dress Nut HDW3

Metric Nut HDW6

Lock Washer HDW11



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

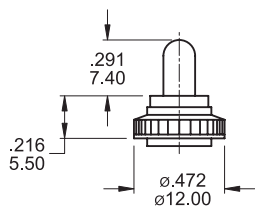
Supplied standard with
B8 metric bushing

Supplied standard with
B1 / B3 bushing

Minature Toggle Switches

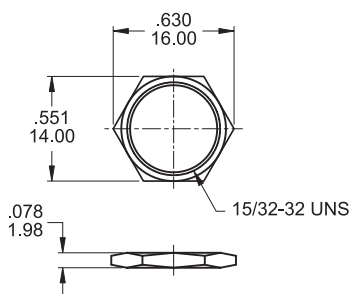


Optional Rubber Hood Sealing



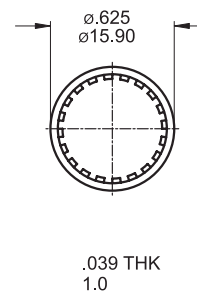
K1=Metric
E1=Inch (Std.)
for actuator T1, T2 and
B1, B3, B5, B6 Bushing only

15/32 Nuts HDW4



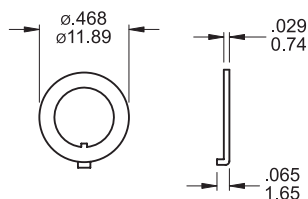
Supplied standard with B13 bushing

Lock Washer HDW12



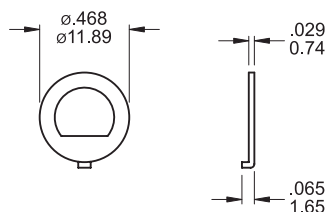
Supplied standard with B13 bushing

HDW15



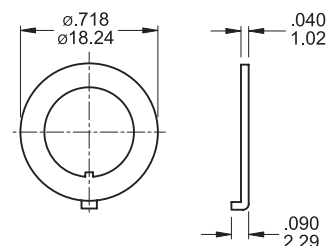
Locking ring supplied standard

HDW16



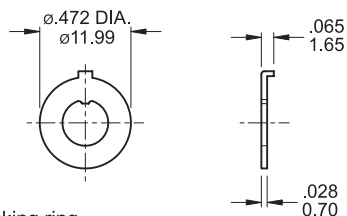
Locking ring
supplied with B5 bushing

HDW17



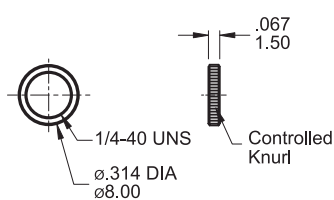
Locking ring
supplied with B13,B18,B20 bushing

HDW18



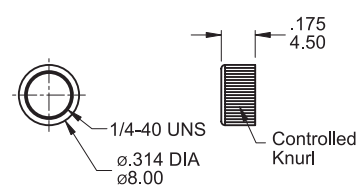
Locking ring
supplied with B8 bushing

HDW19



NU-1M18

HDW20



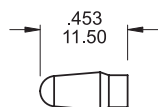
NU-1M24

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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