

Minature Toggle Switches

multicomp PRO

**RoHS
Compliant**



Specifications

Mechanical Life	: 40,000 make-and-break cycles
Contact Resistance	: 10mΩ max. initial @ 2-4V DC 100mA for both silver and gold plated contacts
Insulation Resistance	: 1,000MΩ 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

Switch Function

No. Poles	Model No.	Switch Function			Connected Terminals / Schematic		
		Pos.1	Pos.2	Pos.3	Pos.1	Pos.2	Pos.3
SP	1MS1	ON	NONE	ON	2-3	N/A	2-1
	1MS2	ON	NONE	MOM			2 (COMM)
	1MS3	ON	OFF	ON	OPEN		1 • 3
	1MS4	MOM	OFF	MOM			1 • 3
	1MS5	ON	OFF	MOM			
DP	1MD1	ON	NONE	ON	2-3, 5-6	N/A	2-1, 5-4
	1MD2	ON	NONE	MOM			2 (COMM)
	1MD3	ON	OFF	ON	OPEN		1 • 3 4 • 6
	1MD4	MOM	OFF	MOM			1 • 3 4 • 6
	1MD5	ON	OFF	MOM			
	1MD6	ON	ON	ON	2-3, 5-6	2-3, 5-4	2-1, 5-4
	1MD7	MOM	ON	MOM			
	1MD8	ON	ON	MOM			
3P	1M31	ON	NONE	ON	2-3, 5-6, 8-9	N/A	2-1, 5-4, 8-7
	1M32	ON	NONE	MOM			2 (COMM)
	1M33	ON	OFF	ON	OPEN		1 • 3 4 • 6 7 • 9
	1M34	MOM	OFF	MOM			1 • 3 4 • 6 7 • 9
	1M35	ON	OFF	MOM			

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Minature Toggle Switches

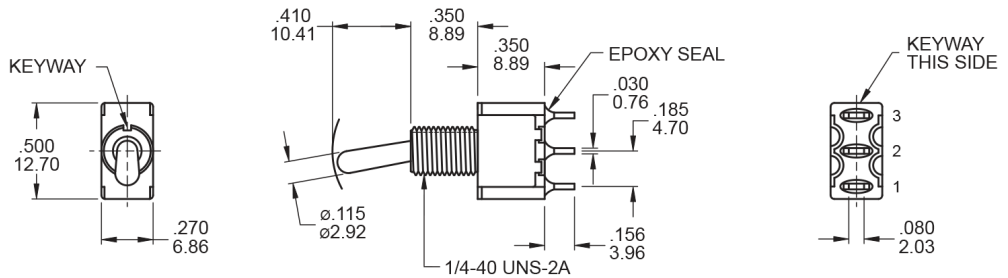
No. Poles	Model No.	Switch Function			Connected Terminals / Schematic		
		Pos.1	Pos.2	Pos.3	Pos.1	Pos.2	Pos.3
4P	1M41	ON	NONE	ON	2-3, 5-6, 8-9, 11-12	N/A	2-1, 5-4, 8-7, 11-10
	1M42	ON	NONE	MOM			
	1M43	ON	OFF	ON	OPEN		
	1M44	MOM	OFF	MOM		2-3, 5-6, 8-9, 11-12	
	1M45	ON	OFF	MOM			
	1M46	ON	ON	ON			
	1M47	MOM	ON	MOM			
	1M48	ON	ON	MOM			

MOM = Momentary

Pole Options:



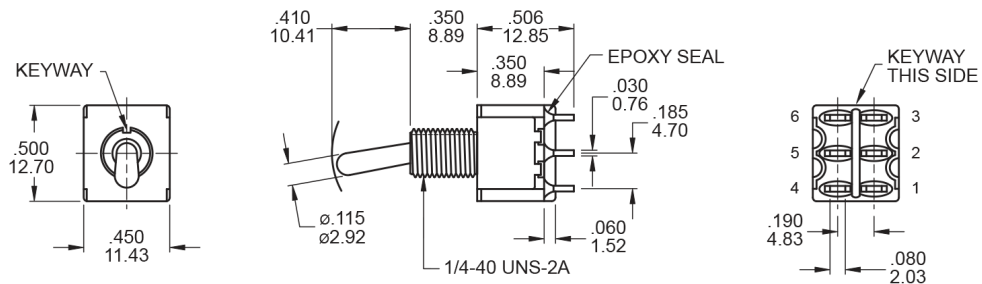
SPDT



Part No. Shown : 1MS1T1B1M1QE

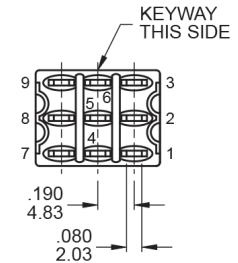
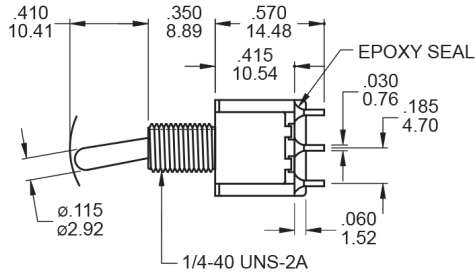
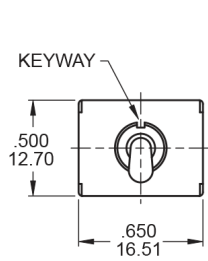


DPDT



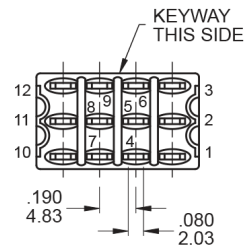
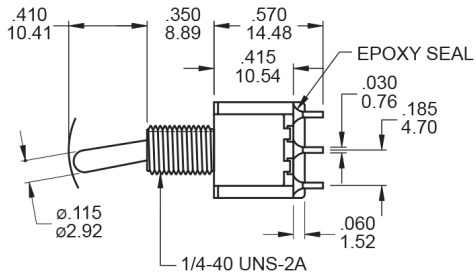
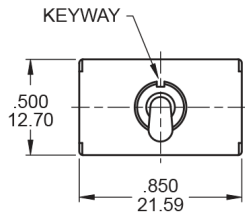
Part No. Shown : 1MD1T1B1M1QE

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3PDT

Part No. Shown : 1M31T1B1M1QE



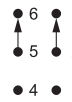
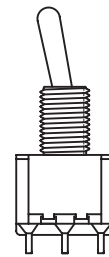
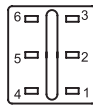
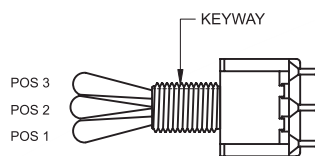
4PDT

Part No. Shown : 1M41T1B1M1QE

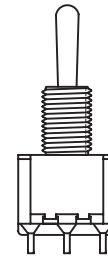
3-Way Switch:

SINGLE POLE, 3 POSITION

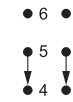
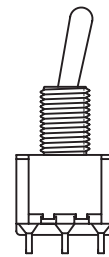
Model No.	POS 1	POS 2	POS 3
1MD6	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4



POS. 1



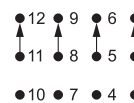
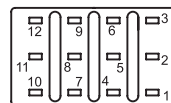
POS. 2



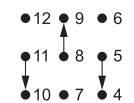
POS. 3

DOUBLE POLE, 3 POSITION

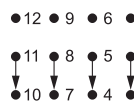
Model No.	POS 1	POS 2	POS 3
1M46	ON	ON	ON
Term. Comm.	2-3,5-6 8-9,11-12	2-3,5-4 8-9,11-10	2-1,5-4 8-7,11-10



POS. 1

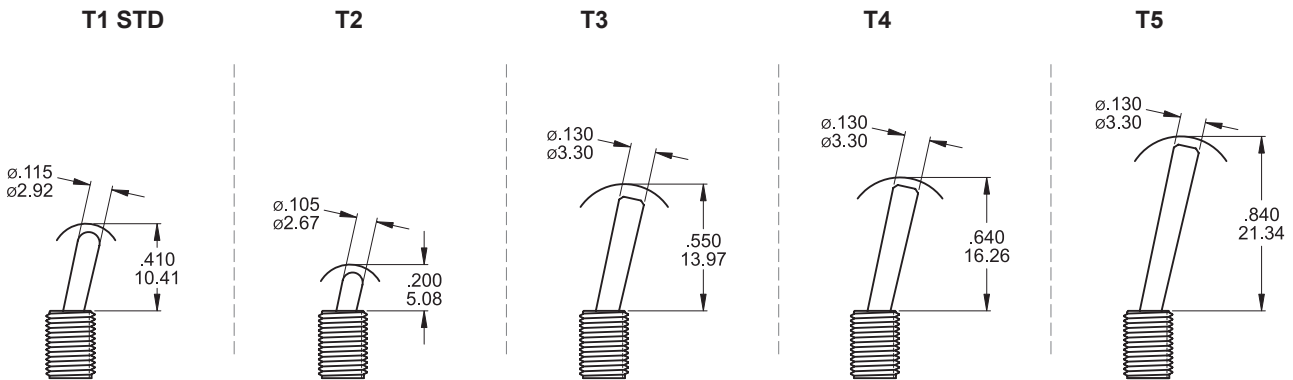


POS. 2

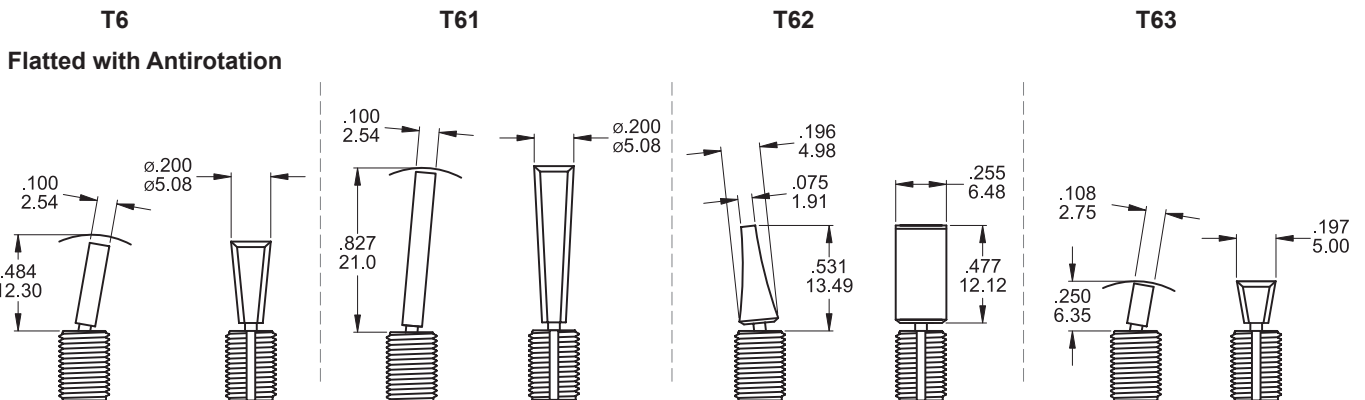


POS. 3

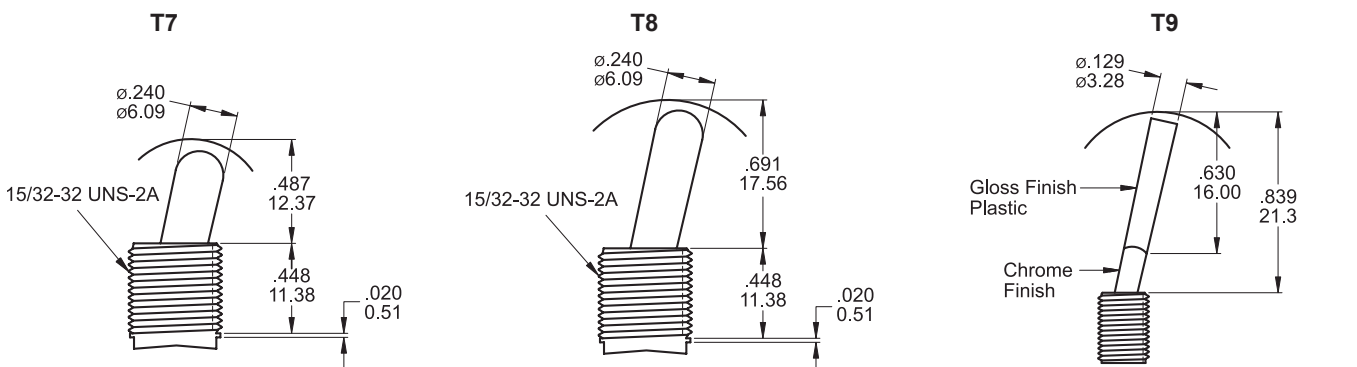
Actuator Options:



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



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



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

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

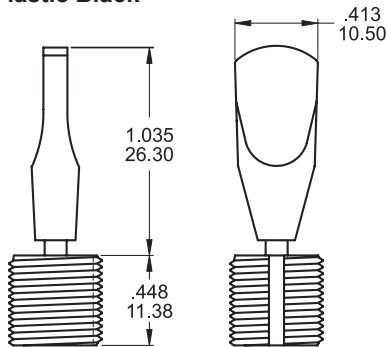
B1 / B2 bushing std
 with black and red color only (std.)

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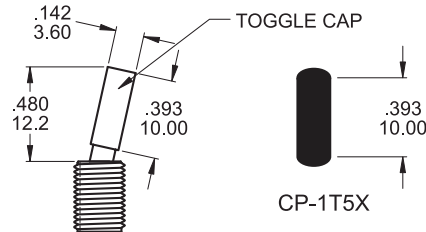
TA

Plastic Black



Use with B18 bushing only

T11



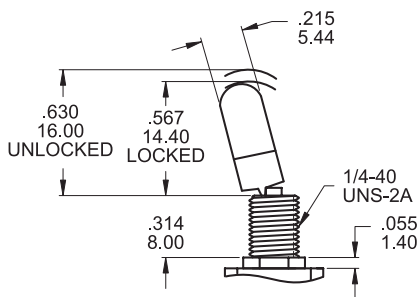
Note T11 Actuator shown with standard B1 Bushing ;
Add .07 (1.78) for B3 Bushing ;
Subtract .02 (0.51) for B6 Bushing.
Std for M1,M2 Terminal sub .016 (0.40) for M6,M7.VSX

Plastic No.Colour :

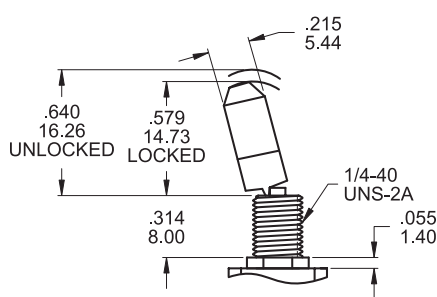
ITEM NO	COLOR
1	White
2	Black (Std)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

T62 , TA , T9 , T11
Actuator Only

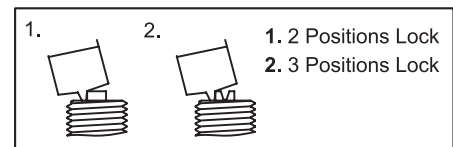
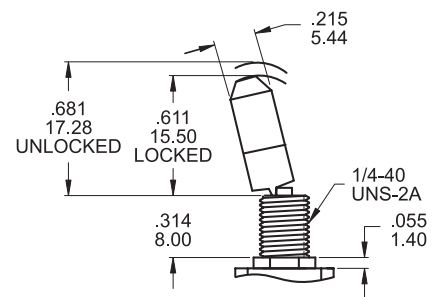
TL1B25



TL2B25

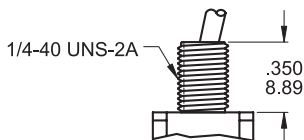
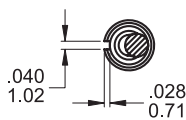


TL3B25

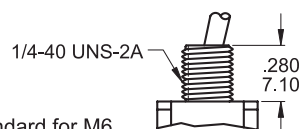
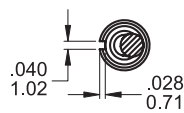


Bushing Options:

B1 THD STD
B2 NON-THD

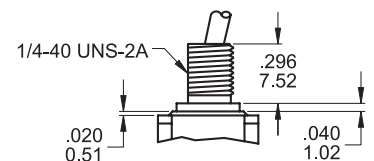
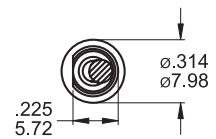


B3 THD
B4 NON-THD



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

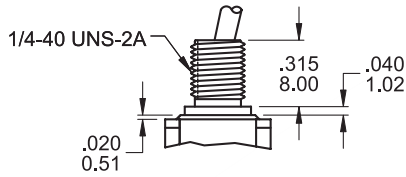
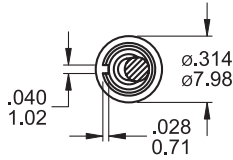
B5 HIGH TORQUE



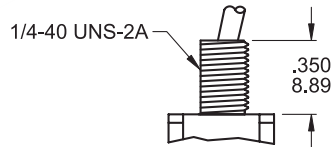
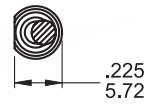
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Element14.com/multicomp-pro

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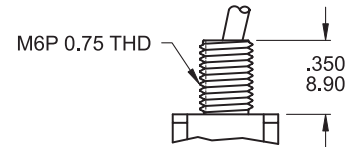
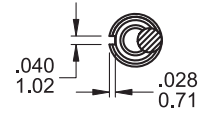
B6 HIGH TORQUE



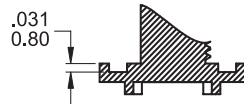
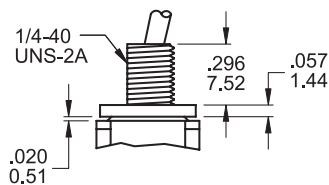
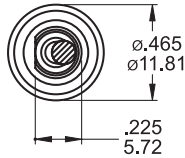
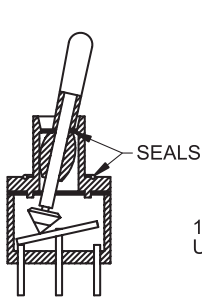
B7 THD STD



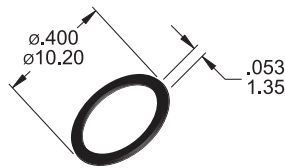
B8 METRIC THD



B9 SPLASH PROOF

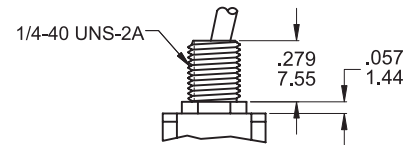
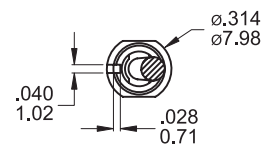


CP-1TEB



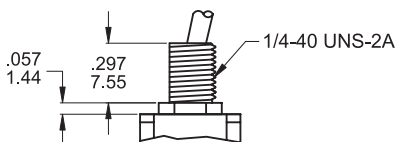
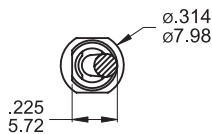
O-Ring
supplied with B9 bushing

B11 THD STD B12 NON-THD



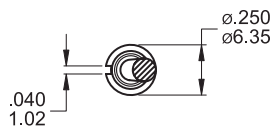
Use with T6 actuators only

B15 THD STD B16 NON-THD

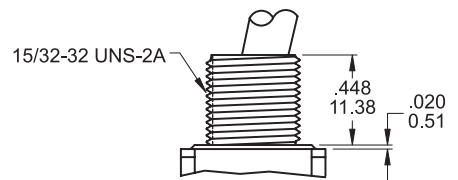
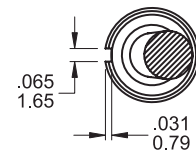


Use with T6 actuators only

B17

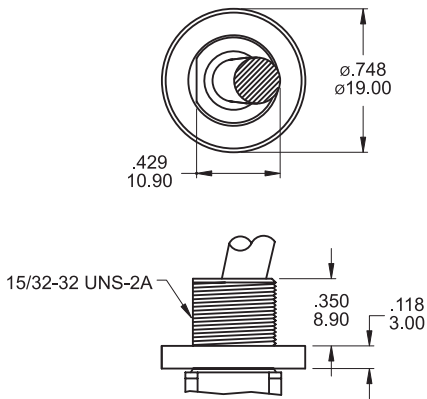


B13



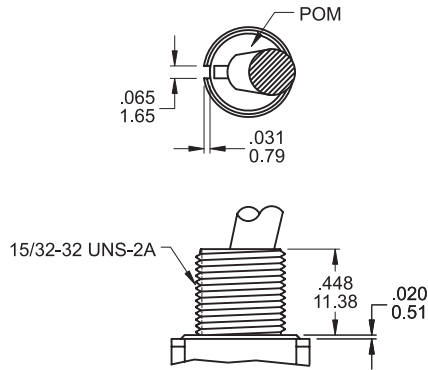
Use with T7, T8 actuators only
B13 Bear strength from top of actuator
up to 10kg aside up to 15kg

B14 SPLASH PROOF



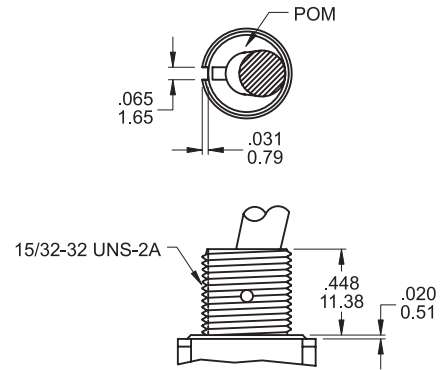
Use with T7 , T8 actuators only

B18



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

B20

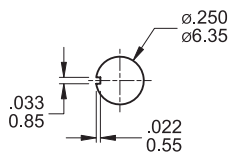


Use with T7,T8 and TA actuators only with Plastic (POM) Insert

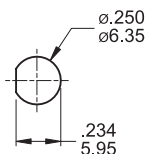
B18 , B20 Bear strength from top of actuator up to 20kg aside up to 15kg

Panel Mounting:

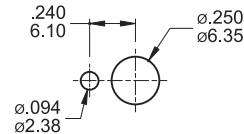
1/4" Bushing



Without locking ring (Keyway)

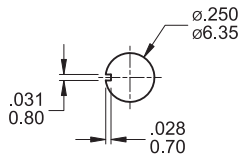


Without locking ring (Flat)

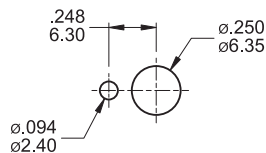


With standard locking ring.

Metric Bushing

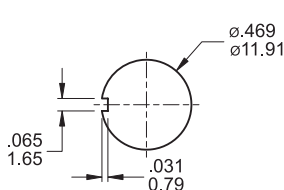


Without locking ring (Keyway)

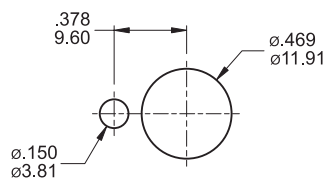


With standard locking ring.

15/32 Bushing

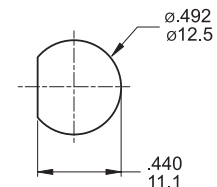


Without locking ring (Keyway)



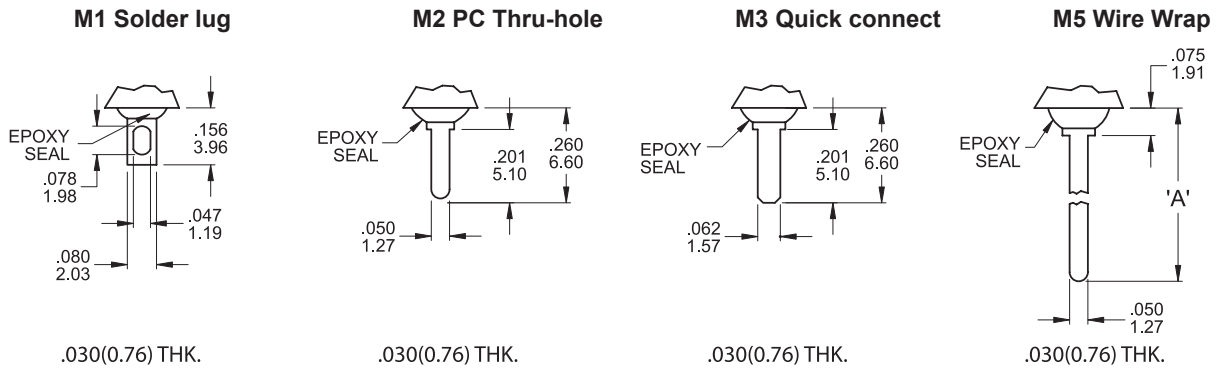
With standard locking ring.

Splash Proof Bushing



Without locking ring (Flat)

Termination Options:

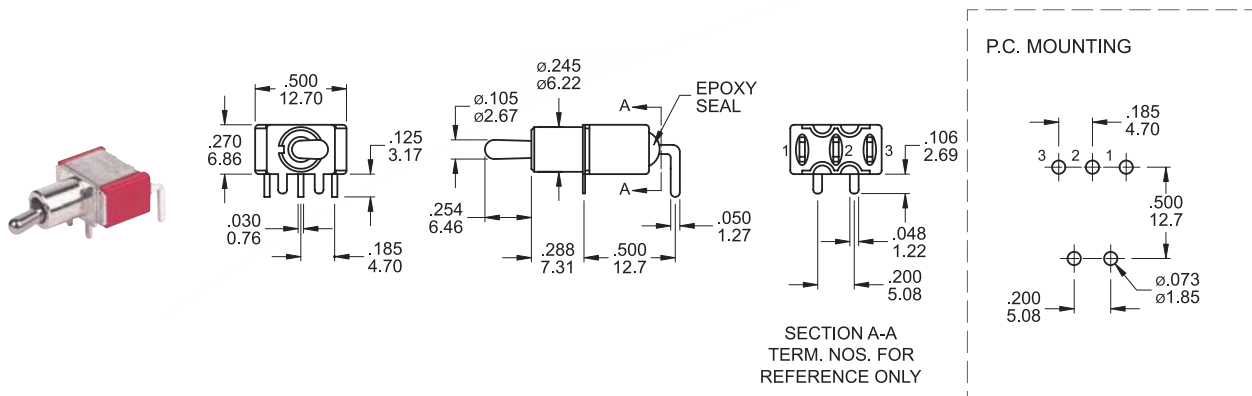


Option Code	Dim. A
M5-1	0.736 (18.7)
M5-2	0.953 (24.20)
M5-3	0.415 (10.55)
M5-4	1.062 (26.97)

Other Termination Options:

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

M6



SPDT

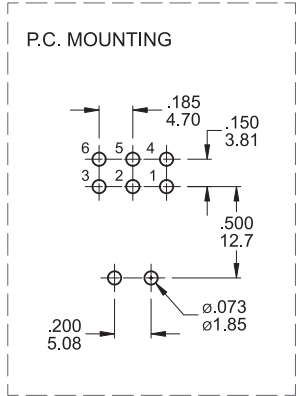
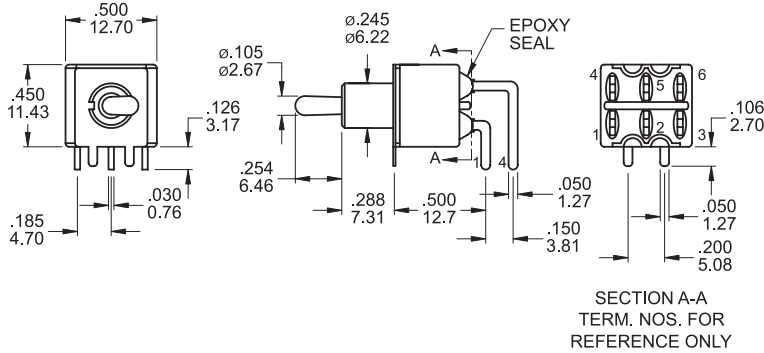
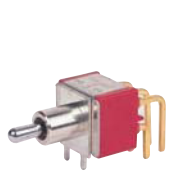
Part No. Shown : 1MS1T2B4M6QE

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 Farnell.com/multicomp-pro
 Element14.com/multicomp-pro

Minature Toggle Switches



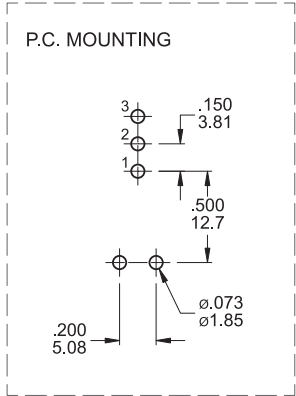
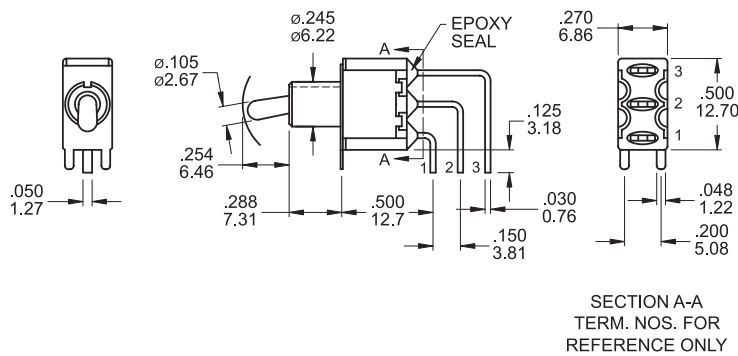
M6



DPDT

Part No. Shown : 1MD1T2B4M6RE

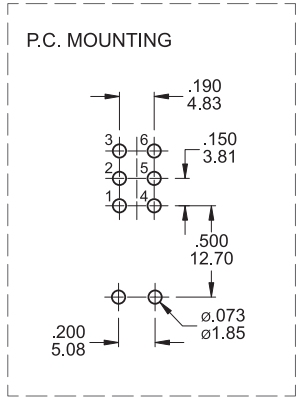
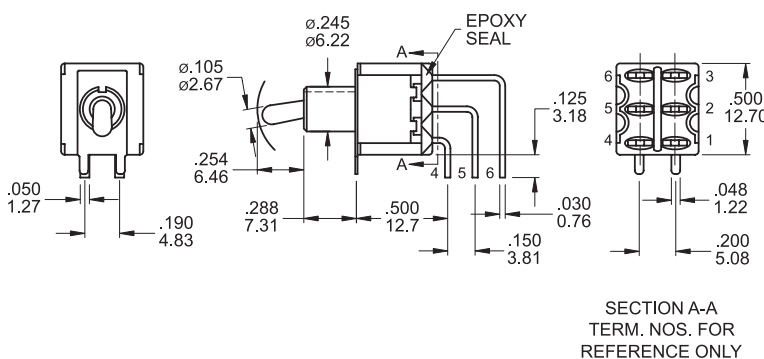
M7



SPDT

Part No. Shown : 1MS1T2B4M7QE

M7



DPDT

Part No. Shown : 1MD1T2B4M7QE

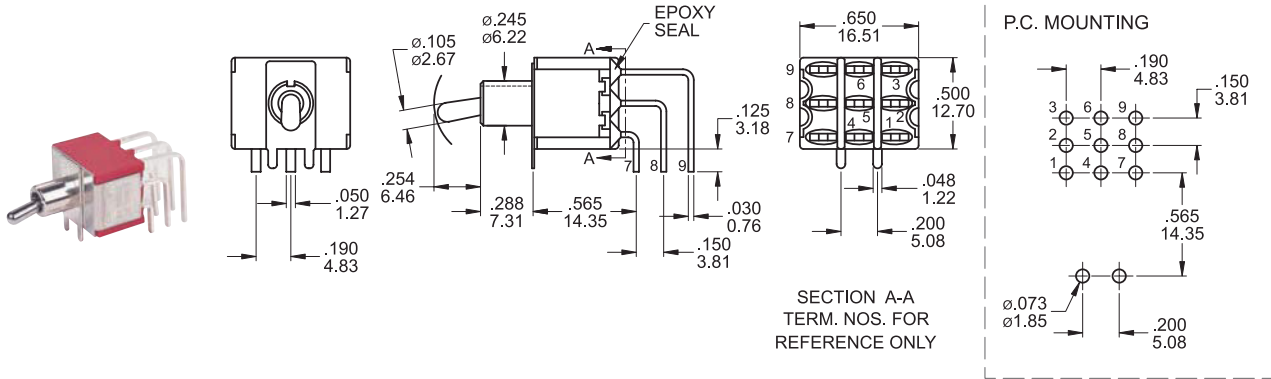
Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro



Minature Toggle Switches



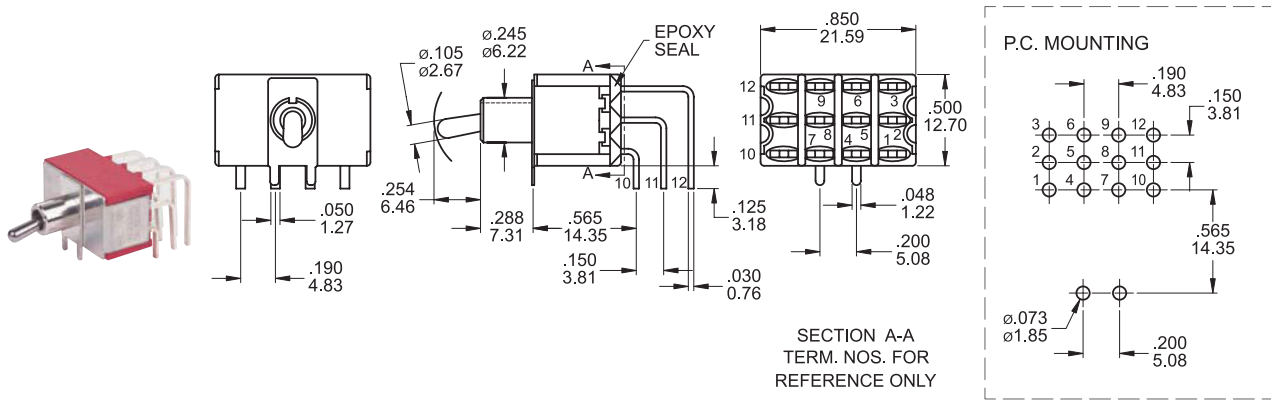
M7



3PDT

Part No. Shown : 1M31T2B4M7QE

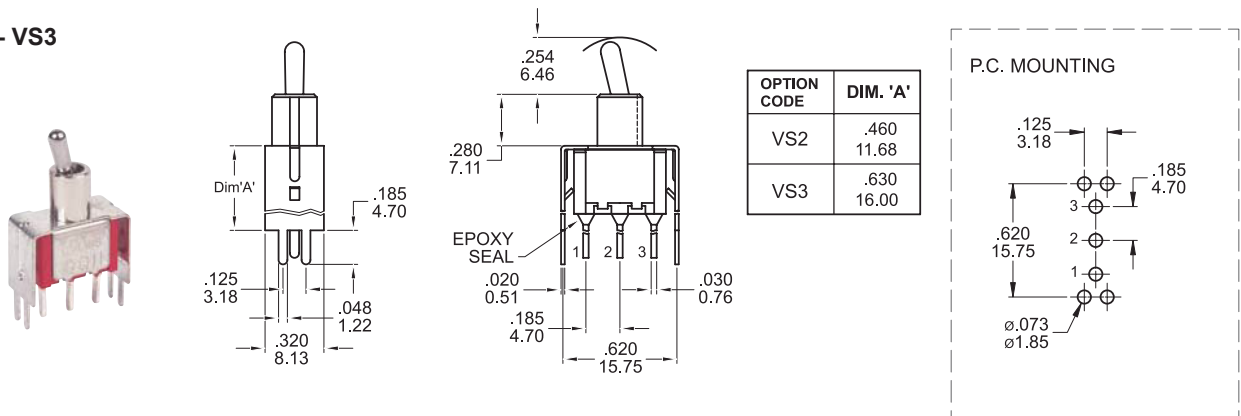
M7



4PDT

Part No. Shown : 1M41T2B4M7QE

VS2 - VS3



SPDT

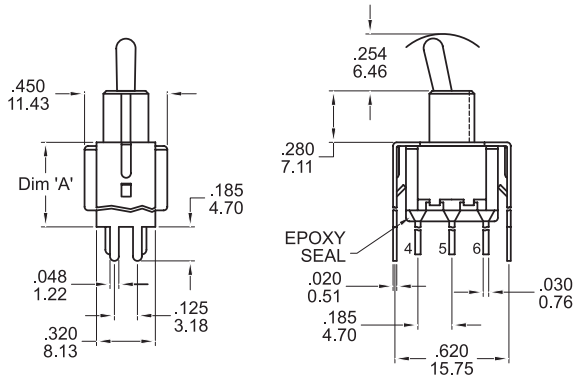
Part No. Shown : 1MS1T2B4VS2QE

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro

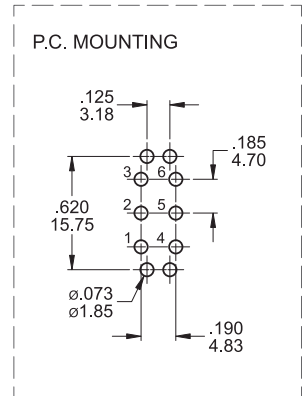


Minature Toggle Switches

VS2 - VS3

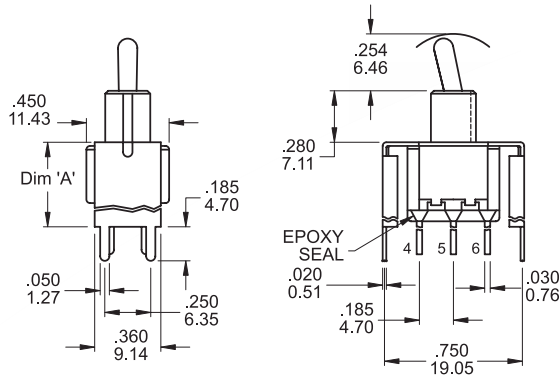


OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

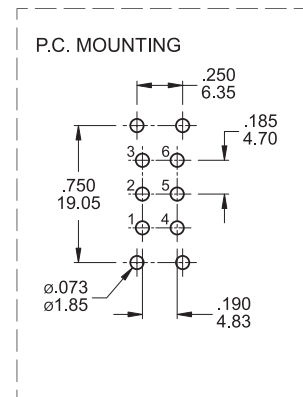


DPDT

VS5



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



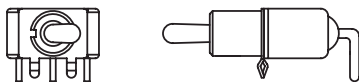
Part No. Shown : 1MD1T2B4VS3QE

Part No. Shown : 1MD1T2B4VS5QE

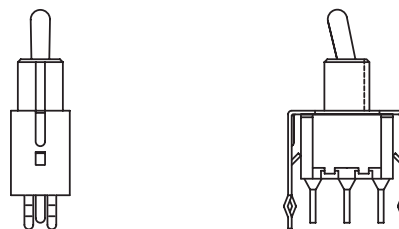
DPDT

Snap-In Termination Options:

M6N

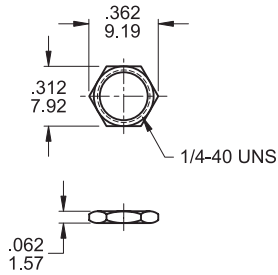


V2N



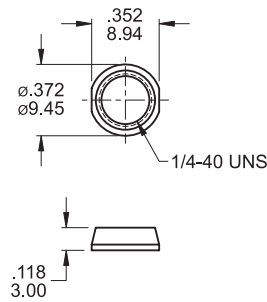
Hardware:

1/4 Nuts HDW2

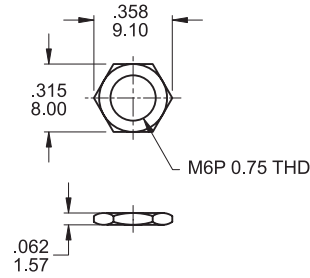


Supplied standard with B1, B3, B5, B6 and B9 options

Dress Nut HDW3

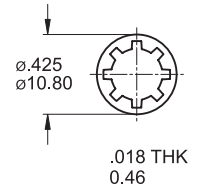


Metric Nut HDW6



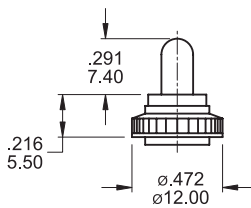
Supplied standard with B8 metric bushing

Lock Washer HDW11



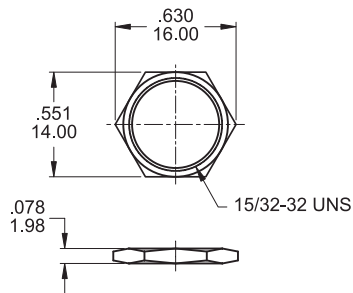
Supplied standard with B1 / B3 bushing

Optional Rubber Hood Sealing



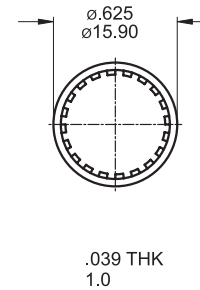
K1=Metric
E1=Inch (Std.)
for actuator T1, T2 and B1, B3, B5, B6 Bushing only

15/32 Nuts HDW4



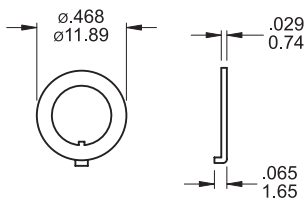
Supplied standard with B13 bushing

Lock Washer HDW12



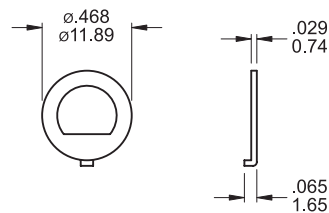
Supplied standard with B13 bushing

HDW15



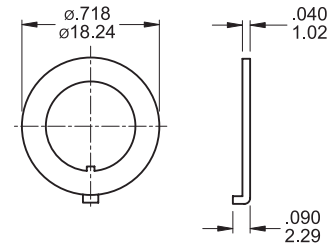
Locking ring supplied standard

HDW16



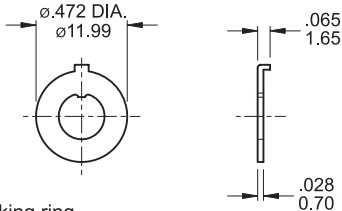
Locking ring supplied with B5 bushing

HDW17



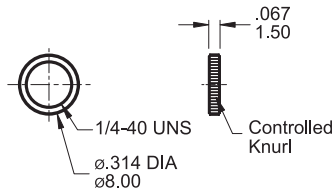
Locking ring supplied with B13, B18, B20 bushing

HDW18



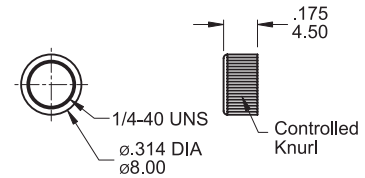
Locking ring
supplied with B8 bushing

HDW19



NU-1M18

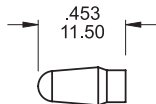
HDW20



NU-1M24

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)

Part Number Explanation

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	CONTACT MATERIAL	SEAL	RoHS SOLDERING
<p>Model NO.</p> <p>1MS1 SP On-None-On</p> <p>1MS2 SP On-None-Mom</p> <p>1MS3 SP On-Off-On</p> <p>1MS4 SP Mom-Off-Mom</p> <p>1MS5 SP On-Off-Mom</p> <p>1MD1 DP On-None-On</p> <p>1MD2 DP On-None-Mom</p> <p>1MD3 DP On-Off -On</p> <p>1MD4 DP Mom-Off-Mom</p> <p>1MD5 DP On-Off-Mom</p> <p>1MD6 DP On-On-On</p> <p>1MD7 DP Mom-On-Mom</p> <p>1MD8 DP On-On-Mom</p> <p>1M31 3P On-None-On</p> <p>1M32 3P On-None-Mom</p> <p>1M33 3P On-Off-On</p> <p>1M34 3P Mom-Off-Mom.</p> <p>1M35 3P On-Off-Mom</p> <p>1M41 4P On-None-On</p> <p>1M42 4P On-None-Mom</p> <p>1M43 4P On-Off-On</p> <p>1M44 4P Mom-Off-Mom</p> <p>1M45 4P On-Off-Mom</p> <p>1M46 4P On-On-On</p> <p>1M47 4P Mom-On-Mom</p> <p>1M48 4P On-On-Mom</p>	<p>Actuator</p> <p>T1 10.41 high</p> <p>T2 5.08 high</p> <p>T3 13.97 high</p> <p>T4 16.26 high</p> <p>T5 21.34 high</p> <p>T6 Flatted,anti-rotation</p> <p>T61 Flatted,anti-rotation</p> <p>21.0 high</p> <p>T62 Lever handle with cap</p> <p>13.49 high</p> <p>T63 Flatted,anti-rotation</p> <p>6.35 high</p> <p>T7 12.37 high, 15/32 bushing</p> <p>T8 17.56 high, 15/32 bushing</p> <p>T9 Plastic, 21.3 high</p> <p>TA 26.30 high lever handle</p> <p>with cap, 15/32 bushing</p> <p>T11 Plastic, 12.2 high</p> <p>TL1 Locking lever 16.00 high</p> <p>TL2 Locking lever 16.26 high</p> <p>TL3 Locking lever 17.28 high</p>	<p>Bushing</p> <p>B1 8.89 high, keyway (thd std)</p> <p>B2 8.89 high, keyway (non-thd)</p> <p>B3 7.10 high, keyway (thd)</p> <p>B4 7.10 high, keyway (non-thd)</p> <p>B5 7.52 high, flat (torque)</p> <p>B6 8.00 high, keyway (torque)</p> <p>B7 8.89 high, flat (thd std)</p> <p>B8 8.89 high, keyway (metric thd)</p> <p>B9 7.52 high, flat (splash proof)</p> <p>B11 7.55 high, keyway (thd std)</p> <p>B12 7.55 high, keyway (non-thd)</p> <p>B13 11.38 high, keyway (15/32 bushing)</p> <p>B14 11.90 high, flat (splash proof)</p> <p>B15 7.55 high, flat (thd std)</p> <p>B16 7.55 high, flat (non-thd)</p> <p>B17 3.50 high, keyway</p> <p>B18 11.38 high, keyway (15/32 bushing)</p> <p>B20 11.38 high, keyway (15/32 bushing)</p> <p>B25 8.00 high, keyway, locking lever (thd)</p> <p>B26 8.00 high, keyway, locking lever (nin-thd)</p>	<p>Terminations</p> <p>M1 Solder lug</p> <p>M2 PC thru-hole</p> <p>M3 Quick connect</p> <p>M51 18.70 high, wire wrap</p> <p>M52 24.20 high, wire wrap</p> <p>M53 10.55 high, wire wrap</p> <p>M54 26.97 high, wire wrap</p> <p>M6 Right angle, PC thru-hole</p> <p>M6N Right angle, Snap-in, PC thru-hole</p> <p>M7 Vertical right angle, PC thru-hole</p> <p>VS2 11.68 high, V-bracket</p> <p>V2N 11.68 high, Snap-in. V-bracket</p> <p>VS3 16.00 high, V-bracket</p> <p>VS4 11.68 high, V-bracket</p> <p>VS5 16.00 high, V-bracket</p>	<p>Contact material</p> <p>Q Silver</p> <p>R Gold</p> <p>G Gold, pure-tin</p> <p>S Silver, pure-tin</p> <p>C Gold over silver</p> <p>K Gold over silver, pure-tin</p>	<p>Seal</p> <p>E EPOXY (std)</p> <p>N NO EPOXY</p>	<p>RoHS soldering</p> <p>high</p> <p>RoHS compliant</p> <p>S RoHS & Lead Free</p> <p>F Halogen Free+RoHS</p>

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