

## SPECIFICATIONS

**CONTACT RATING:** AC 125V 6A, AC 250V 3A ,DC 30V 3A  
**MECHANICAL LIFE:** 200,000 make-and-break cycles DC 10V & 0.1mA.  
**CONTACT RESISTANCE:** 10mΩmax.  
**INSULATION RESISTANCE:** 500V 500MΩmin.  
**DIELECTRIC STRENGTH:** 1,000 V RMS@sea level.  
**OPERATING TEMPERATURE:** -30°C to 85°C.  
**WATER-RESISTANCE:** 100 make-and-break cycles min at10cmdepth

## MATERIALS

**CASE:** Diallyl phthalate (DAP) (UL94v-0).  
**ACTUATOR:** Brass,chrome plated.  
**BUSHING:** Brass,nickel plated.  
**HOUSING:** Stainless Steel.  
**SWITCH SUPPORT:** Brass,tin plated.  
**TERMINAL/CONTACT:** Silver or gold plated.(See Page 25)

## HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	CONTACT MATERIAL	SEAL	ROHS SOLDERING
<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px;"></div> </div>	<div style="border: 1px solid black; width: 15px; height: 15px;"></div>	<div style="border: 1px solid black; width: 15px; height: 15px;"></div>	<div style="border: 1px solid black; width: 15px; height: 15px;"></div>
<p>MODEL NO.</p> <p><b>1FS1</b> SP On-None-On</p> <p><b>1FS2</b> SP On-None-Mom.</p> <p><b>1FS3</b> SP On- Off -On</p> <p><b>1FS4</b> SP Mom.-Off-Mom.</p> <p><b>1FS5</b> SP On- Off -Mom.</p> <p><b>1FD1</b> DP On-None-On</p> <p><b>1FD2</b> DP On-None-Mom.</p> <p><b>1FD3</b> DP On- Off -On</p> <p><b>1FD4</b> DP Mom.-Off-Mom.</p> <p><b>1FD5</b> DP On- Off -Mom.</p>	<p>ACTUATOR</p> <p><b>T1</b> 10.5 high</p> <p><b>T2</b> 5.4 high</p> <p><b>T3</b> 14.2 high</p> <p><b>T4</b> 16.4 high</p> <p><b>T5</b> 21.4 high</p> <p><b>T6</b> 11.5 high</p> <p><b>T61</b> 21.5 high</p> <p><b>T7</b> 12.37 high</p> <p><b>T8</b> 17.56 high</p> <p><b>T12</b> 11.2 high</p>	<p>BUSHING</p> <p><b>B6</b> 8.00 high</p> <p><b>BA1</b> 9.00 high</p> <p><b>B9</b> 7.52 high</p> <p><b>B13</b> 11.38 high</p>	<p>TERMINATIONS</p> <p><b>M1</b> Solder Lug</p> <p><b>M2</b> PC thru-hole</p>	<p>CONTACT MATERIAL</p> <p><b>Q</b> Silver</p> <p><b>R</b> Gold</p> <p><b>G</b> Gold,pure-tin</p> <p><b>S</b> Silver,pure-tin</p> <p><b>C</b> Gold over silver</p> <p><b>K</b> Gold over silver,pure-tin</p>	<p>SEAL</p> <p><b>E</b> EPOXY (std)</p> <p><b>N</b> NO EPOXY</p>	<p>ROHS SOLDERING</p> <p><b>□</b> Rohs Compliant</p> <p><b>S</b> Rohs &amp; Lead Free</p> <p><b>F</b> Halogen Free+RoHS +REACH</p>

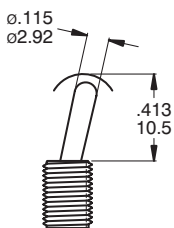
**SWITCH FUNCTION**

NO. POLES	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
		POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	1FS1	ON	NONE	ON		N/A	
	1FS2	ON	NONE	MOM			
	1FS3	ON	OFF	ON			
	1FS4	MOM	OFF	MOM			
	1FS5	ON	OFF	MOM			
DP	1FD1	ON	NONE	ON		N/A	
	1FD2	ON	NONE	MOM			
	1FD3	ON	OFF	ON			
	1FD4	MOM	OFF	MOM			
	1FD5	ON	OFF	MOM			

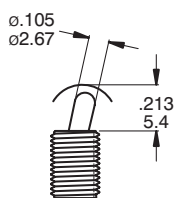
MOM=MOMENTARY

**ACTUATOR OPTIONS**

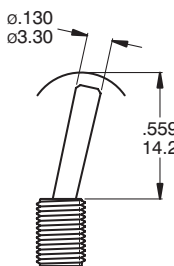
T1 STD



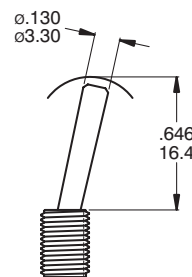
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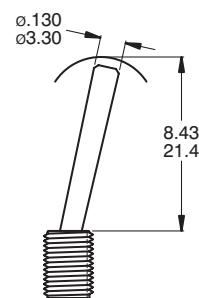
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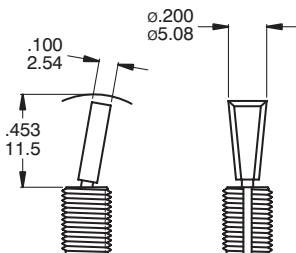
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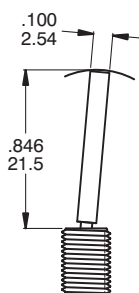
T5



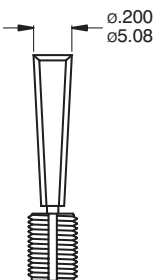
T6 FLATTED WITH ANTIROTATION



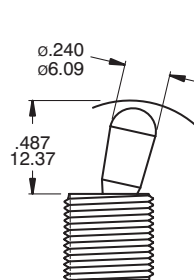
T61



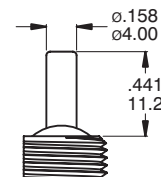
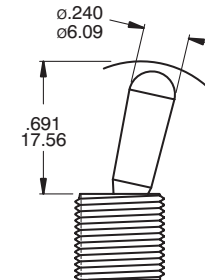
T7



T8



T12



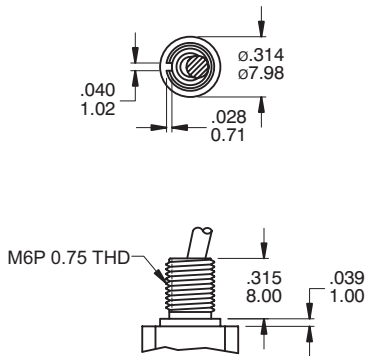
T6, T6-1 use with B6 bushing only

T7, T8 use with B13 bushing only

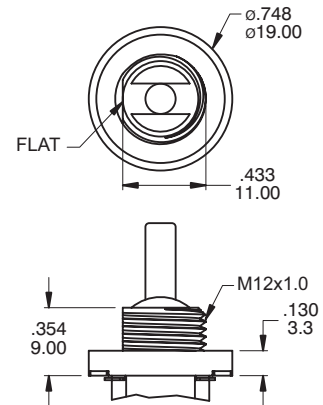
T12 use with BA1 bushing only

**BUSHING OPTIONS**

**B6 HIGH TORQUE**

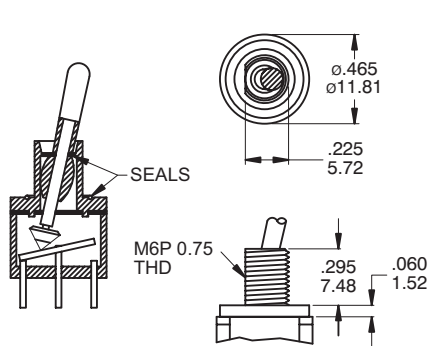


**BA1 SPLASH PROOF**

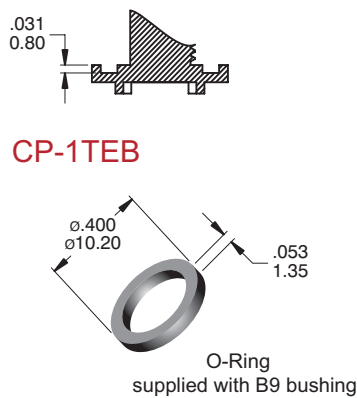


Use with T12 actuators only  
 BA1 Bear Strength from top of actuator  
 up to 10kg aside up to 15kg

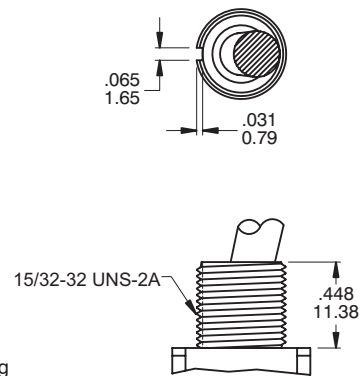
**B9 SPLASH PROOF**



**CP-1TEB**

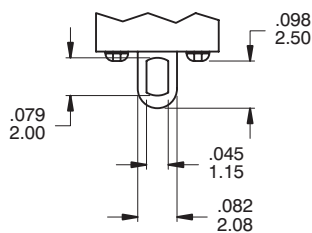


**B13**

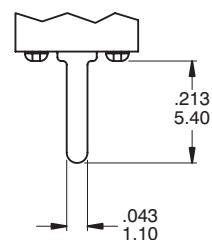


**TERMINATION OPTIONS**

**M1 SOLDER LUG**

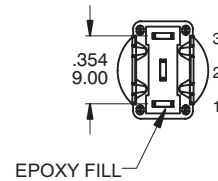
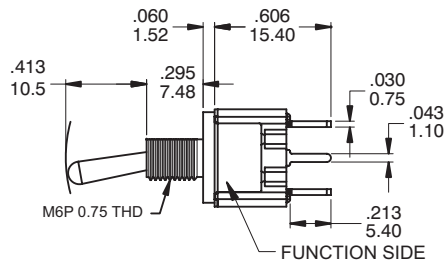
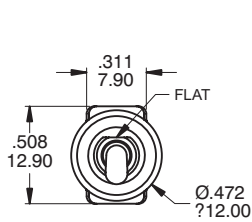


**M2 PC THRU - HOLE**



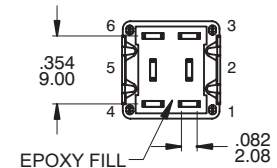
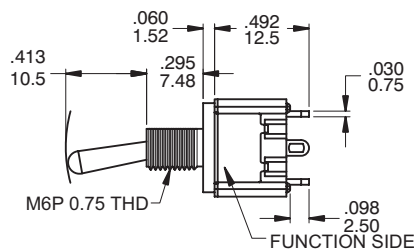
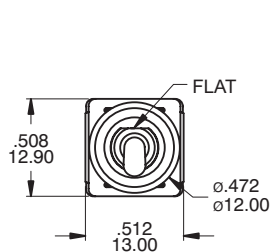
**POLE OPTIONS**

**SPDT**



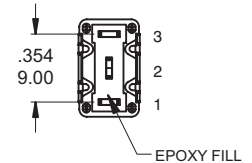
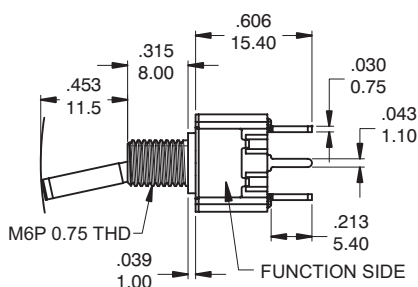
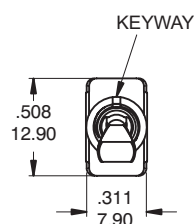
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**DPDT**



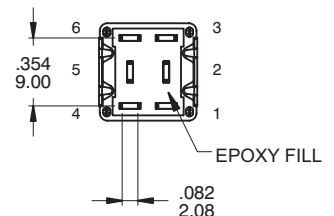
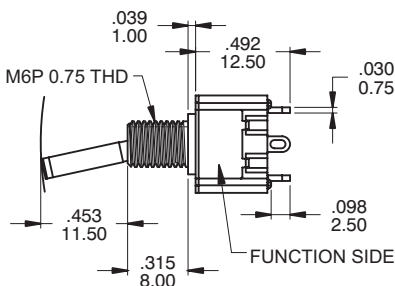
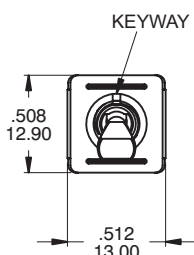
Part No. Shown : 1FD1T1B9M1QES

**SPDT**



Part No. Shown : 1FS1T6B6M2QES

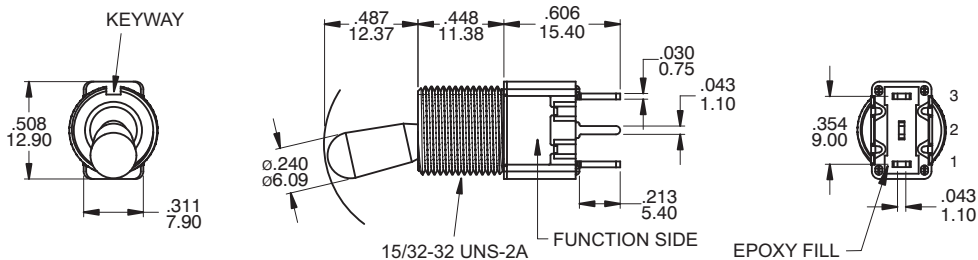
**DPDT**



Part No. Shown : 1FD1T6B6M1QES

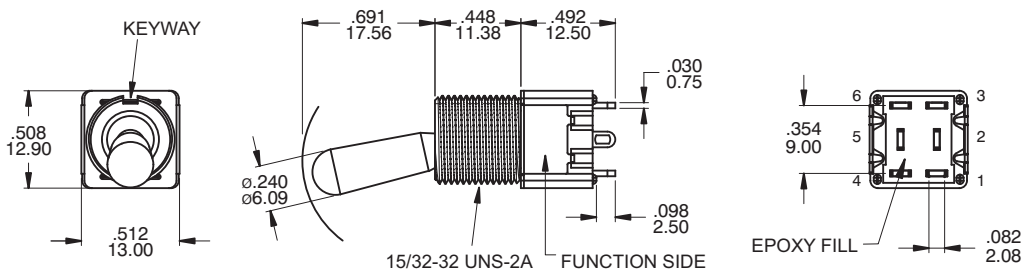
# Miniature Toggle Switches **1F SERIES**

## SPDT



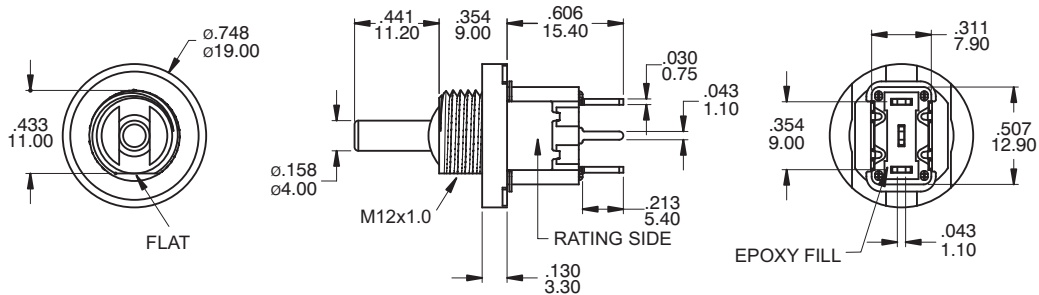
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## DPDT



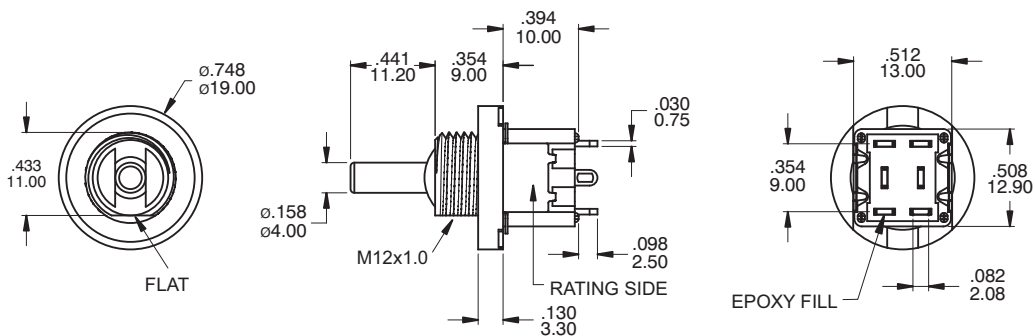
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## SPDT



Part No. Shown : 1FS1T12BA1M2QES

## DPDT



Part No. Shown : 1FD1T12BA1M1QES

**CONTACT MATERIAL OPTIONS**

	CONTACT MATERIAL	TERMINAL PLATING	RATINGS
Q	Silver	Q = Silver	6 Amps with resistant load @ 125VAC or 28VDC 3 Amps with resistant load @ 250VA
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 st 350°C approximately 5 seconds while applying solder.

**WAVE SOLDERING :** Recommended Soldering Temperature : 260 ± 5°C  
Duration of Solder Immersion : 5 ± 1 seconds  
(PCB is 1.6mm in thickness)

**SOLDERING : Vapor phase**

