

1F Series

Miniature Toggle Switches



SPECIFICATIONS

CONTACT RATING: AC 125V 6A, AC 250V 3A ,DC 30V 3A

MECHANICAL LIFE: 100,000 make-and-break cycles
DC 10V & 0.1mA.

CONTACT RESISTANCE: 10 mΩ max.

INSULATION RESISTANCE: 500V 500 MΩ min.

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

OPERATING TEMPERATURE: -30°C to 85°C.

WATER-RESISTANCE: 100 make-and-break cycles min at 10 cm depth for T12 actuator.

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: Brass,with silver or gold plated.(See Page 23)



1F
Toggle Switches

HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	TERMINAL PLATING	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> <p>Model NO.</p> <p>1FS1 SP On-None-On 1FS2 SP On-None-Mom. 1FS3 SP On- Off -On 1FS4 SP Mom.-Off-Mom. 1FS5 SP On- Off -Mom. 1FD1 DP On-None-On 1FD2 DP On-None-Mom. 1FD3 DP On- Off -On 1FD4 DP Mom.-Off-Mom. 1FD5 DP On- Off -Mom.</p>	<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> <p>Actuator</p> <p>T1 10.5 high T2 5.4 high T3 14.2 high T4 16.4 high T5 21.4 high T6 11.5 high T61 21.5 high T12 11.2 high</p>	<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> <p>Bushing</p> <p>B6 8.00 high BA1 9.00 high B9 7.52 high</p>	<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> <p>Terminations</p> <p>M1 Solder Lug M2 PC thru-hole</p>	<div style="border: 1px solid black; width: 15px; height: 15px;"></div> <p>Terminal plating</p> <p>Q Silver R Gold C Gold over silver</p>	<div style="border: 1px solid black; width: 15px; height: 15px;"></div> <p>Seal</p> <p>E EPOXY (std) N NO EPOXY</p>	<div style="border: 1px solid black; width: 15px; height: 15px;"></div> <p>RoHS soldering</p> <p>S RoHS & Lead Free</p>

1F Series

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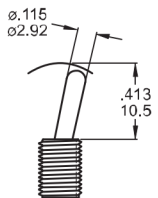
SWITCH FUNCTION

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	2-3		2-1
	1FS3	ON	OFF	ON		OPEN	
	1FS4	MOM	OFF	MOM	2 (COMM) 1 • 3		2 (COMM) 1 • 3
	1FS5	ON	OFF	MOM			
DP	1FD1	ON	NONE	ON		N/A	
	1FD2	ON	NONE	MOM	2-3,5-6		2-1,5-4
	1FD3	ON	OFF	ON		OPEN	
	1FD4	MOM	OFF	MOM	2 (COMM) 5 • 3 4 • 6		2 (COMM) 5 • 3 4 • 6
	1FD5	ON	OFF	MOM			

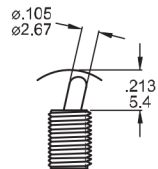
MOM=MOMENTARY

ACTUATOR OPTIONS

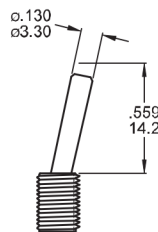
T1 STD



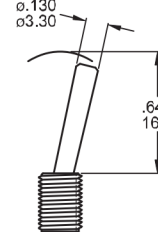
T2



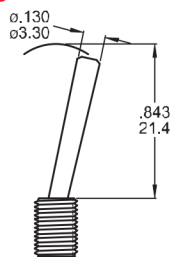
T3



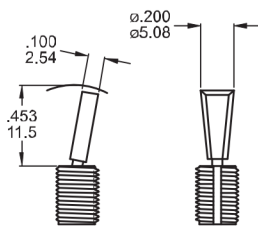
T4



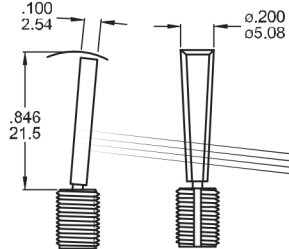
T5



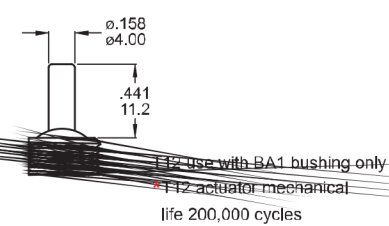
T6 FLATTED WITH ANTIROTATION



T61



T12

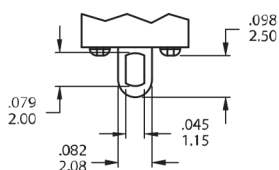


T6, T6-1 use with B6 bushing only

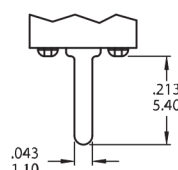
T12 use with BA1 bushing only
T12 actuator mechanical
life 200,000 cycles

TERMINATION OPTIONS

M1 Solder lug

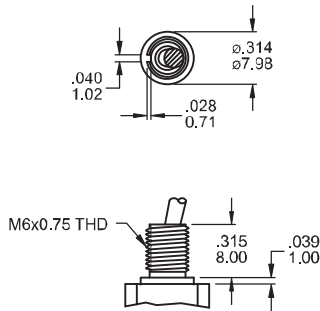


M2 PC Thru-hole

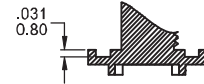
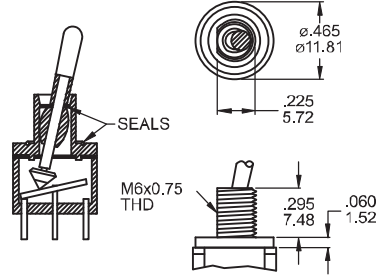


BUSHING OPTIONS

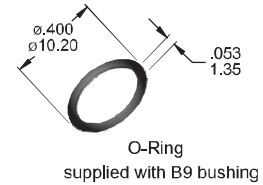
B6 HIGH TORQUE



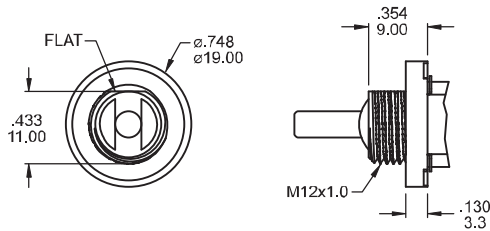
B9 SPLASH PROOF



CP-1TEB



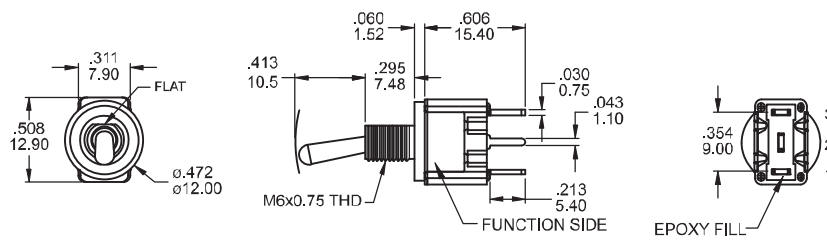
BA1 SPLASH PROOF



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

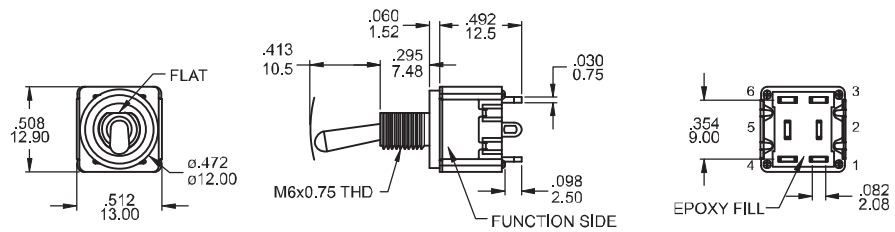
POLE OPTIONS

SPDT



Part No. Shown : 1FS1T1B9M2RES

DPDT



Part No. Shown : 1FD1T1B9M1QES



1F
Toggle Switches

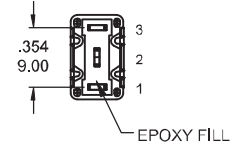
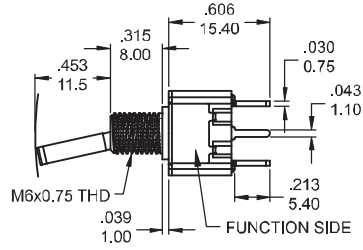
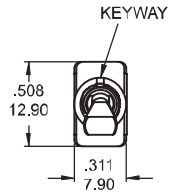
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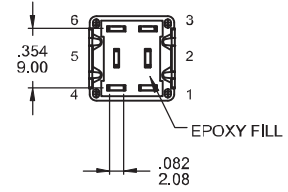
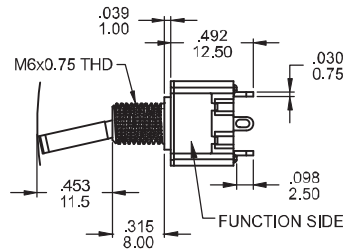
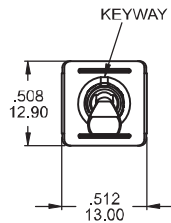
1F
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SPDT



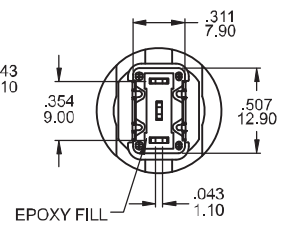
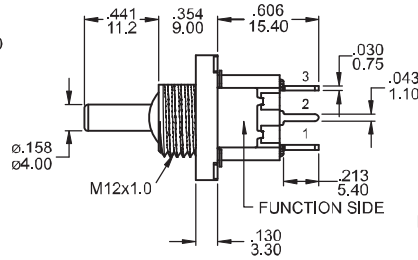
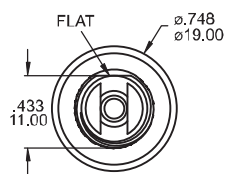
Part No. Shown : 1FS1T6B6M2QES

DPDT



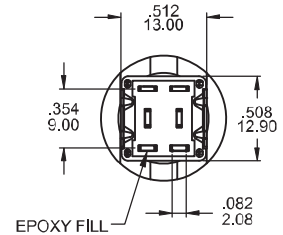
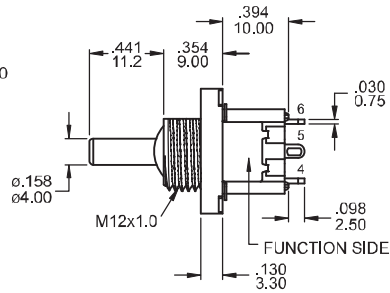
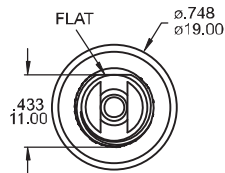
Part No. Shown : 1FD1T6B6M1QES

SPDT



Part No. Shown : 1FS1T12BA1M2QES

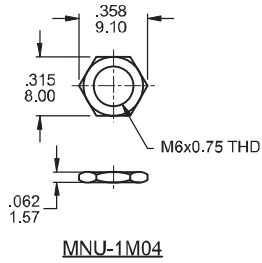
DPDT



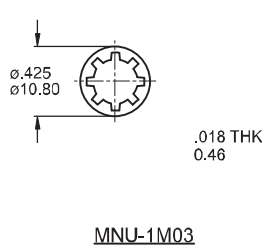
Part No. Shown : 1FD1T12BA1M1QES

HARDWARE

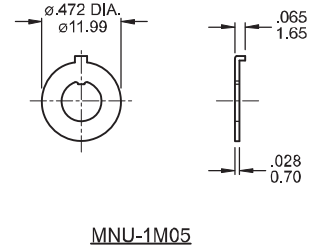
M6x0.75 NUT



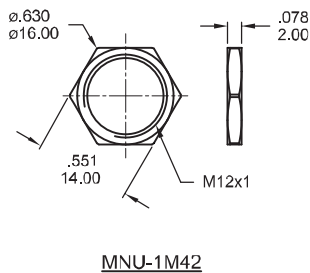
LOCKWASHER



LOCKING RING

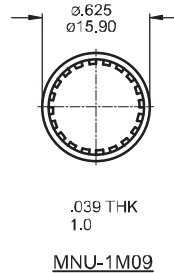


M12x1 NUT



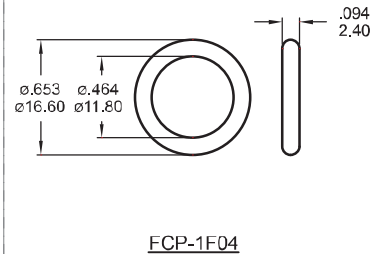
Supplied standard with BA1 bushing

LOCKWASHER



Supplied standard with BA1 bushing

O-RING



Supplied standard with BA1 bushing



1F
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CONTACT MATERIAL OPTIONS

	CONTACT PLATING	TERMINAL PLATING	RATINGS
Q	Silver	Q = Silver	6 Amps with resistant load @ 125VAC
C	Gold over Silver	C = Gold over silver	3 Amps with resistant load @ 250VAC or 30VDC
R	Gold	R = 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)