

# COMMERCIAL & MIL MINIATURE TOGGLES

**T3**  
MINIATURE  
TOGGLES

FEATURING OTTO'S UNIQUE SNAP-ACTION ACTUATION

These miniature toggles are rugged, highly reliable switches offering positive detent action for safe switching operation. Featuring the unique OTTO snap-action switch actuation in conjunction with a unique toggle actuator design.

High contact pressure and superior wiping action of the OTTO design makes the T3 series an excellent choice for switching loads from logic level up to 5 amps.

Choose sealed one or two pole circuitry, 15/32-32 sealed or 1/4-40 unsealed bushing construction, momentary and/or maintained operation. The 15/32-32 bushing model is also available with lever lockout toggle feature or thumb button actuators.

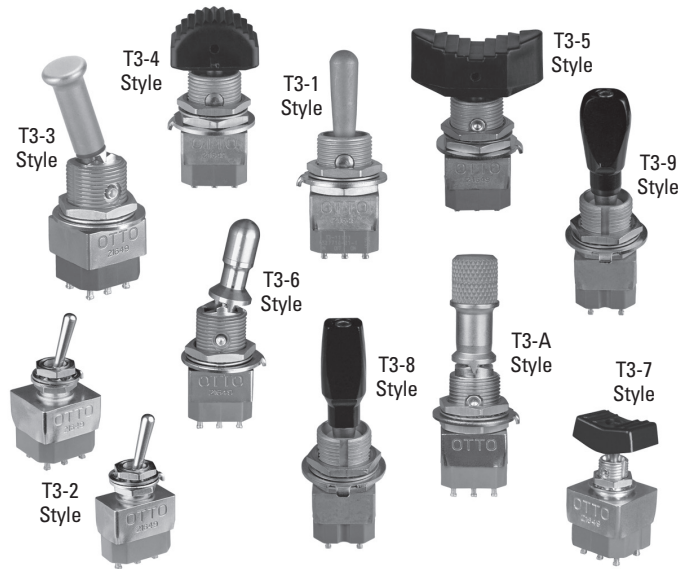
Molded-in terminals seal the contacts against moisture and solder flux wicking. The front-panel side of 15/32-32 bushing models are sealed against water and other liquids per MIL-DTL-83731.

In addition to the single turret solder terminal specified in MIL-DTL-83731, we also offer two different lengths of pins for printed circuit soldering.

Mounting hardware provided includes two hex nuts, one lockwasher and one keyway washer.

## Features:

- Snap-action actuation
- Shorter behind panel depth
- Superior wiping action keeps contacts clean
- Positive tactile response prevents operating errors
- Weighs up to 25% less than competitive products
- More contact/terminal plating choices
- Highly reliable, simpler design, fewer parts
- Black matte finish available. Contact factory.
- RoHS compliant



Standard Characteristics/Ratings:		
ELECTRICAL RATINGS:		
Load	Sea Level @ 28VDC or 115VAC, 400Hz	@ 65,000 Feet
Resistive	5A	5A
Inductive	2A	2A
Lamp	1A	N/A
DWV	1200Vrms	400Vrms
Contact Resistance	25 mΩ max initial	
<b>Electrical Life:</b>	30,000 cycles	
<b>Mechanical Life:</b>	100,000 cycles	
<b>Seal:</b>	MIL-DTL-83731 (15/32-32 bushing style only)	
<b>Operating Temp Range:</b>	-65°C to +85°C	
MATERIALS:		
<b>Handle:</b>	303 Stainless	
<b>Bushing:</b>	Per MIL-DTL-83731	
<b>Body:</b>	Per MIL-DTL-83731	
<b>Terminal Hardware:</b>	None required	
<b>Mounting Hardware:</b>	Hex nuts, lockwasher and keyway washer	

## T3 PART NUMBER CODE

T3	-	X	X	X	X	X	X	-	or	X
<b>Bushing Style</b>		<b>Terminal Style</b>	<b>Circuitry</b>	<b>Circuit Made With Lever At:</b>			<b>Contact Material</b>	<b>Lockout Feature</b>		<b>Button Color</b> ②
1. 15/32-32 2. 1/4-40 3. 15/32-32 With Lockout ① 4. 15/32-32 With Convex Button ② 5. 15/32-32 With Concave Button ② 6. 15/32-32 With Lockout and Smaller Bat Handle ① 7. 1/4-40 with Rocker Button ② 8. 15/32-32 with Small Paddle Bat Handle 9. 15/32-32 with Large Paddle Bat Handle A. 15/32-32 With Lockout and Knurled Lockout Handle		1. Single Turret 4. PC Pin 0.150" lg. 5. PC Pin 0.270" lg.	1. Single Pole 2. Double Pole	<b>Keyway Side</b> 1. ON 2. OFF 3. ON 4. (ON) 5. (ON) 6. (ON)	<b>Center</b> OFF NONE NONE NONE OFF OFF	<b>Opposite Keyway</b> ON ON ON ON (ON) ON	1. Silver/Gold Flash 2. Gold Plate	Lockout feature configuration code letters A-P for bushing styles 3, 6 and A only. Otherwise omit.		For bushing styles 4, 5 and 7 1. Red 2. Black 8. Gray <b>Lever Color</b> For bushing styles 1 & 2 - bat handle & bushing A. Black No Selection. Clear For bushing styles 3 & 6 - bat handle & bushing (available only in clear) No Selection. Clear For bushing styles 8 & 9 - bat handle only 1. Clear 2. Red No Selection. Black

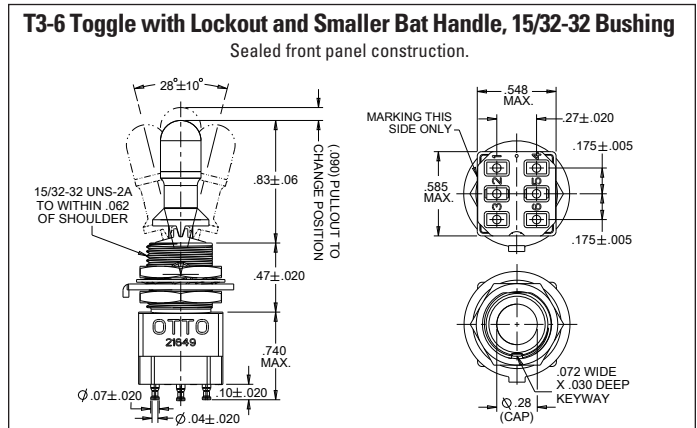
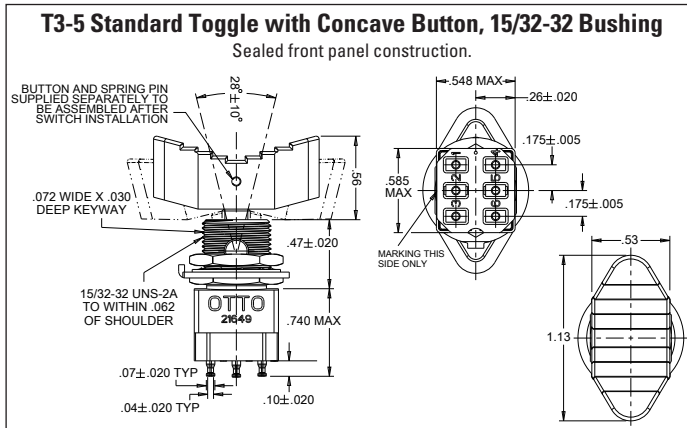
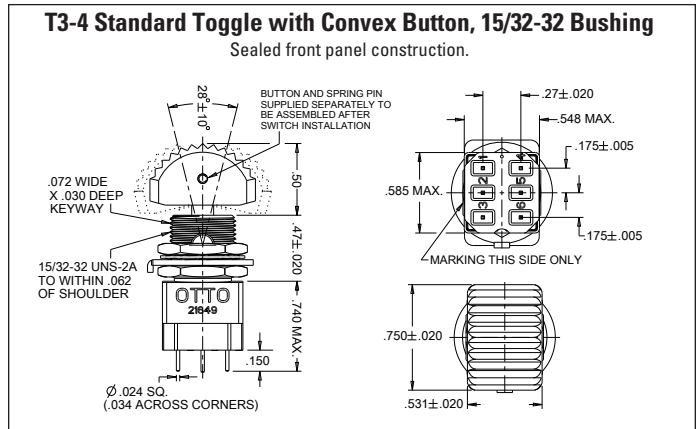
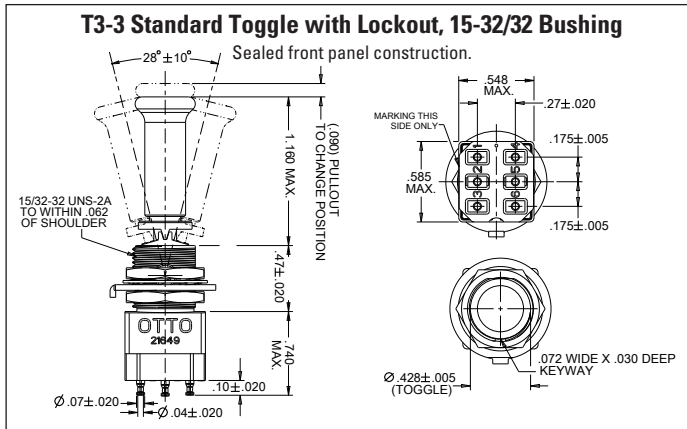
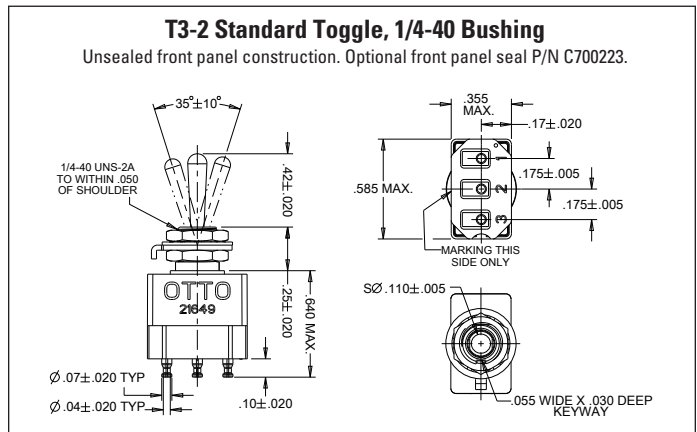
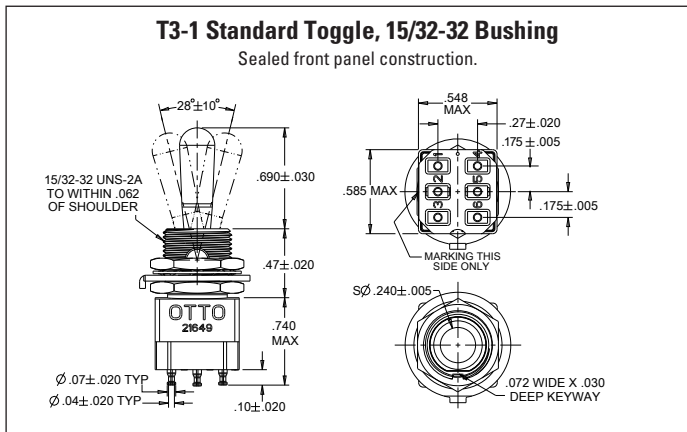
NOTE: ( ) denotes momentary action.

① Add appropriate lockout feature configuration code letter (A thru P) for bushing styles 3 and 6 only.  
 ② Button color codes (1, 2 and 8) for bushing styles 4, 5 and 7 at end of Part Number.

MEETS MIL-DTL-83731, COMMERCIAL & MILITARY GRADES

Circuit Made With Lever At				15/32" Bushing (Sealed)		1/4-40" Bushing (Unsealed)		Lever Lock-15/32" Bushing (Sealed)		
No. Poles	Keyway Side 1-2 4-5	Center Position	Opposite Keyway 2-3 5-6	MIL-SPEC Part Number	OTTO Part Number	MIL-SPEC Part Number	OTTO Part Number	MIL-SPEC Part Number	OTTO Part Number	Suffix for Lockout Feature
1	ON	OFF	ON	MS27718-21-1	T3-11111	MS27716-21-1	T3-21111	MS27720-21-1	T3-31111	All
1	OFF	None	ON	MS27718-22-1	T3-11121	MS27716-22-1	T3-21121	MS27720-22-1	T3-31121	D, F, G
1	ON	None	ON	MS27718-23-1	T3-11131	MS27716-23-1	T3-21131	MS27720-23-1	T3-31131	D, F, G
1	(ON)	None	ON	MS27718-26-1	T3-11141	MS27716-26-1	T3-21141	MS27720-26-1	T3-31141	F
1	(ON)	OFF	(ON)	MS27718-27-1	T3-11151	MS27716-27-1	T3-21151	MS27720-27-1	T3-31151	E, L, N
1	(ON)	OFF	ON	MS27718-31-1	T3-11161	MS27716-31-1	T3-21161	MS27720-31-1	T3-31161	E, F, K, L, M, N
2	ON	OFF	ON	MS27719-21-1	T3-11211	MS27717-21-1	T3-21211	MS27721-21-1	T3-31211	All
2	OFF	None	ON	MS27719-22-1	T3-11221	MS27717-22-1	T3-21221	MS27721-22-1	T3-31221	D, F, G
2	ON	None	ON	MS27719-23-1	T3-11231	MS27717-23-1	T3-21231	MS27721-23-1	T3-31231	D, F, G
2	(ON)	None	ON	MS27719-26-1	T3-11241	MS27717-26-1	T3-21241	MS27721-26-1	T3-31241	F
2	(ON)	OFF	(ON)	MS27719-27-1	T3-11251	MS27717-27-1	T3-21251	MS27721-27-1	T3-31251	E, L, N
2	(ON)	OFF	ON	MS27719-31-1	T3-11261	MS27717-31-1	T3-21261	MS27721-31-1	T3-31261	E, F, K, L, M, N

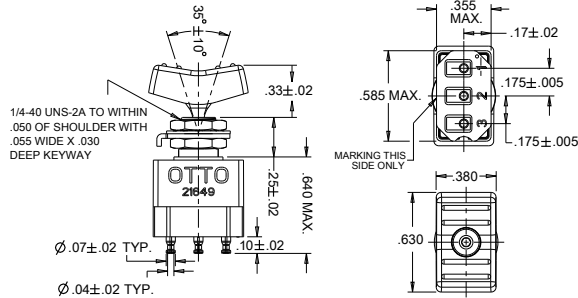
NOTE: ( ) denotes momentary action.



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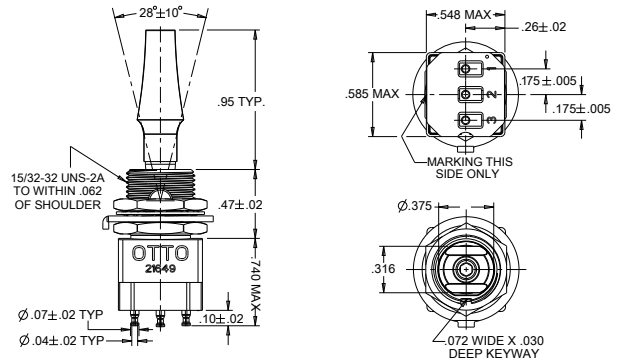
### T3-7 Standard Toggle with Rocker Button, 1/4-40 Bushing

Unsealed front panel construction. Optional front panel seal P/N C700223.



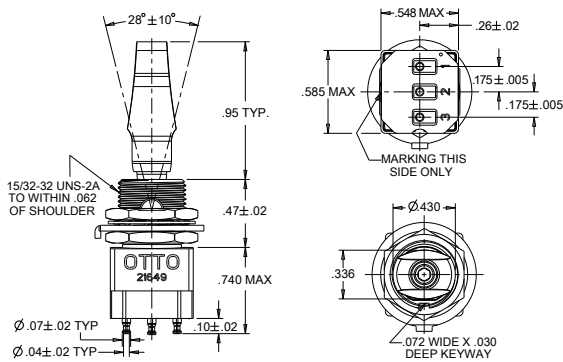
### T3-8 Small Paddle Bat Handle Toggle, 15/32-32 Bushing

Sealed front panel construction.



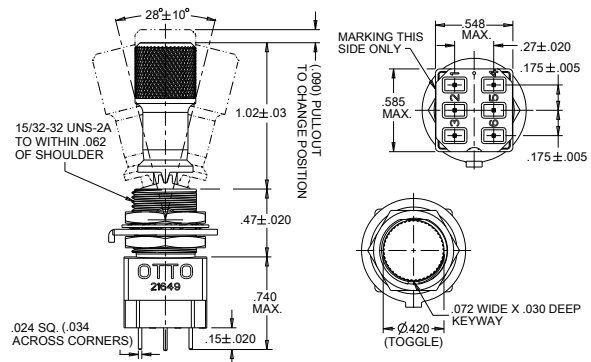
### T3-9 Large Paddle Bat Handle Toggle, 15/32-32 Bushing

Sealed front panel construction.

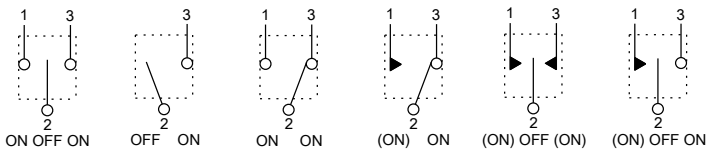


### T3-A Standard Toggle, 1/4-40 Bushing

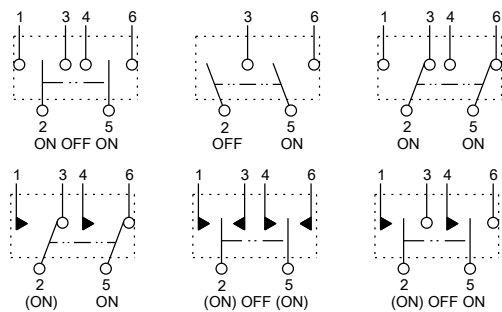
Unsealed front panel construction. Optional front panel seal P/N C700223.



#### SINGLE POLE SCHEMATICS



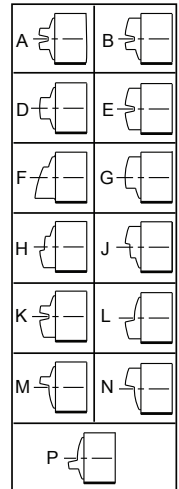
#### DOUBLE POLE SCHEMATICS



#### Lever Lockout Configuration Codes

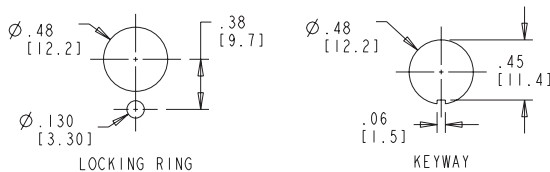
Figures A thru P are schematics to illustrate lockout configurations and momentary positions. They do not represent details of construction.

- A** Locked in all three positions
- B** Locked in Center and Keyway Side position
- D** Locked out of Center position
- E** Locked in Center position
- F** Locked in Opposite Keyway position
- G** Locked in Keyway Side position
- H** Locked out of Center and Keyway Side Position
- J** Locked out of Center and Opposite Keyway position
- K** Locked in Center and Opposite Keyway position
- L** Locked out of Keyway Side position
- M** Locked out of and into Opposite Keyway position
- N** Locked out of Opposite Keyway position
- P** Locked out of and into Keyway Side position



#### TOGGLE SWITCH MOUNTING DIMENSIONS (FOR REFERENCE ONLY)

##### MOUNTING DETAIL FOR 15/32" DIA. BUSHING SWITCHES



##### MOUNTING DETAIL FOR 1/4" DIA. BUSHING SWITCHES

