

# COMMERCIAL & MIL MINIATURE TOGGLES

T3  
MINIATURE  
TOGGLES

FEATURING OTTO'S UNIQUE SNAP-ACTION MECHANISM

These miniature toggles are rugged, highly reliable switches offering positive detent action for safe switching operation. Featuring the unique OTTO snap-action switch mechanism in conjunction with a unique toggle actuator design, the T3 series offers snap-action contact actuation.

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.

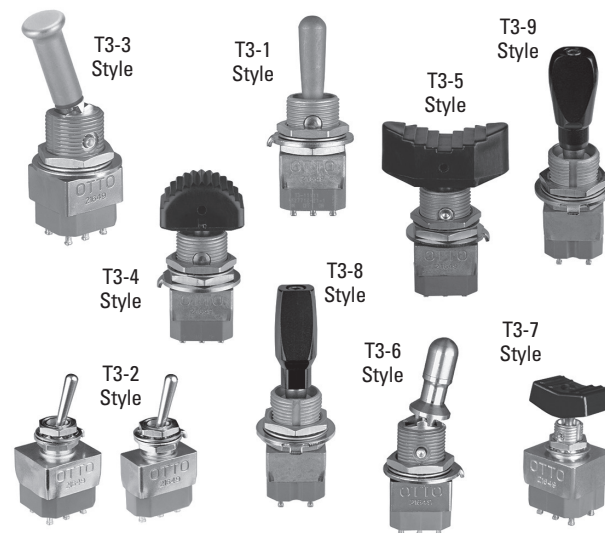
Molded-in terminals seal the contacts against moisture and solder flux wicking. The front-panel side of 15/32-32 bushing models are sealed against water and other liquids per MIL-DTL-83731.

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 contact 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	

**Electrical Life:** 30,000 cycles

**Mechanical Life:** 100,000 cycles

**Seal:** MIL-DTL-83731 (15/32-32 bushing style only)

**Operating Temp Range:** -65°C to +85°C

#### MATERIALS:

**Handle:** 303 Stainless

**Bushing:** Per MIL-DTL-83731

**Body:** Per MIL-DTL-83731

**Terminal Hardware:** None required

**Mounting Hardware:** Hex nuts, lockwasher and keyway washer

## T3 PART NUMBER CODE

Bushing Style	Terminal Style	Circuitry	Circuit Made With Lever At:			Contact Material	Lockout Feature	Button Color 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

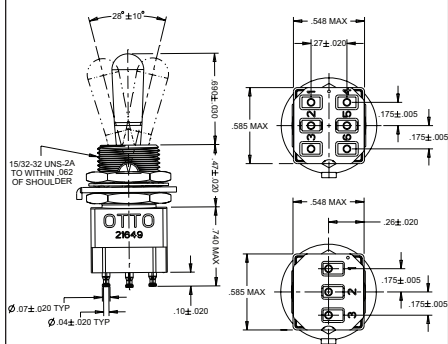
NOTE: ( ) denotes momentary action.

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	

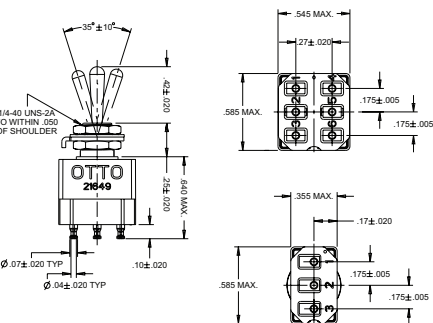
NOTE: ( ) denotes momentary action.

NOTE: ( ) denotes momentary action.

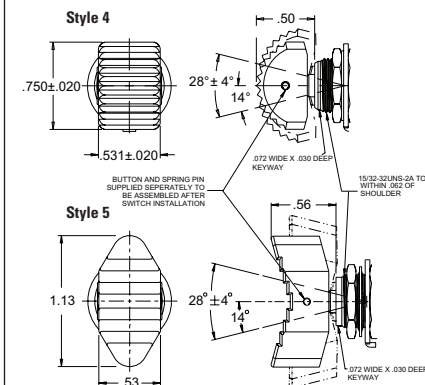
Sealed front panel construction.



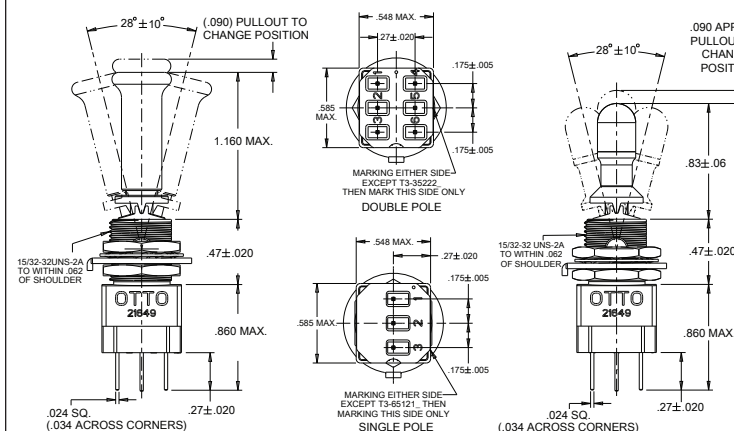
Unsealed front panel construction. Optional front panel seal P/N 700223.



Sealed front panel construction. Behind-panel dimensions same as 15/32-32 Bushing style.

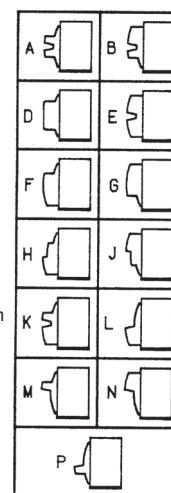


Sealed front panel construction.



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



MOUNTING DETAIL FOR 15/32" DIA. BUSHING SWITCHES

