

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.

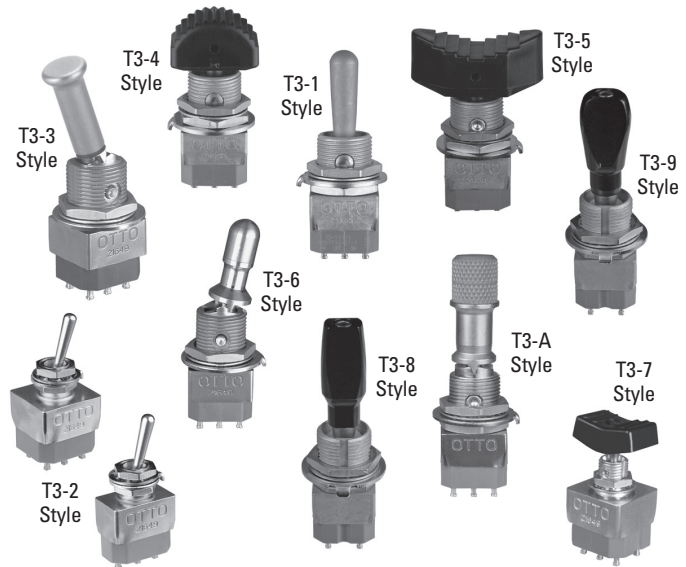
Molded-in terminals seal the contacts against moisture and solder flux wicking. The front-panel side of 15/32-32 bushing models are sealed against water and other liquids per MIL-DTL-83731.

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

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

T3	-	X	X	X	X	X	X	X	-	or	X
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	Keyway Side 1. ON 2. OFF 3. ON 4. (ON) 5. (ON) 6. (ON)	Center OFF NONE NONE NONE OFF OFF	Opposite Keyway 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 Lever Color 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

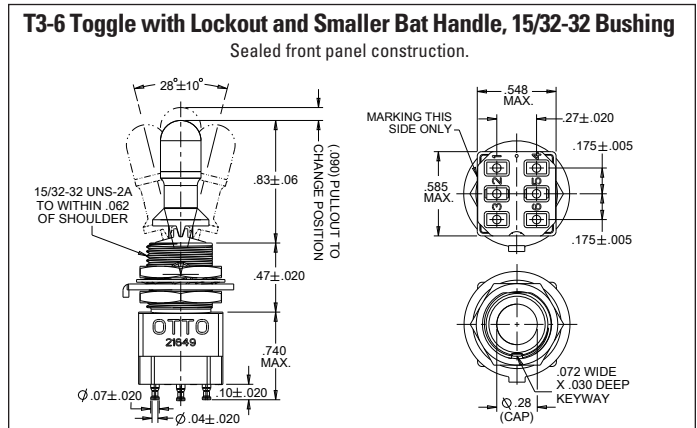
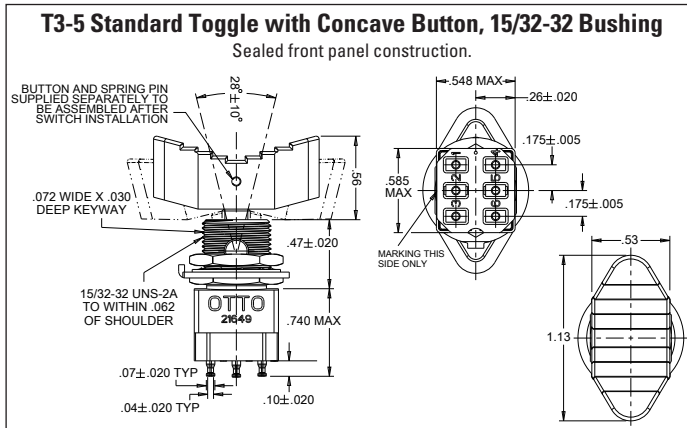
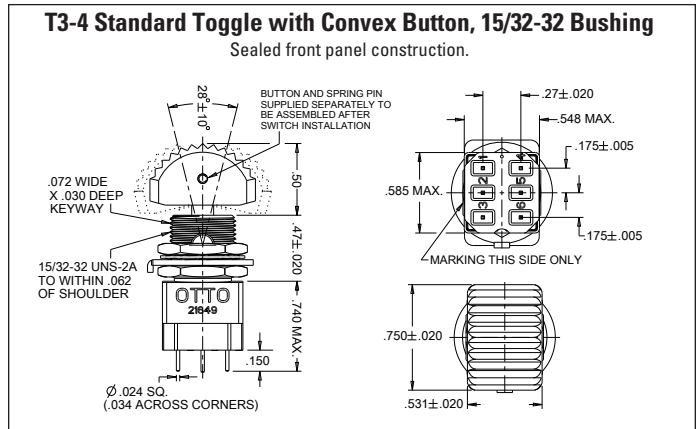
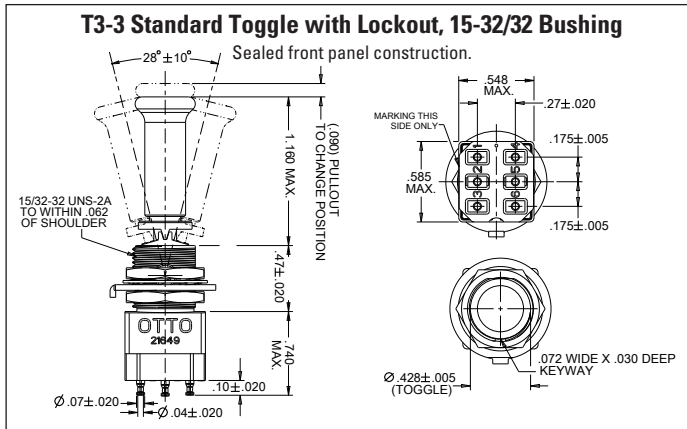
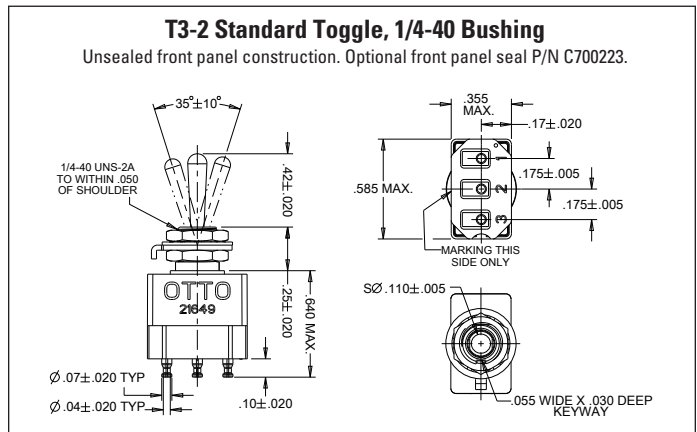
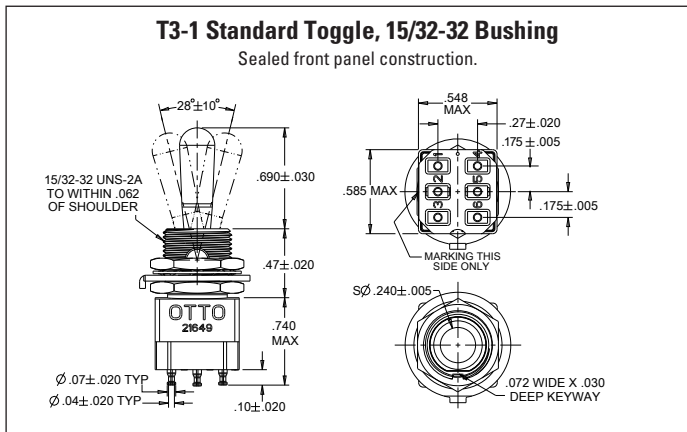
NOTE: () denotes momentary action.

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

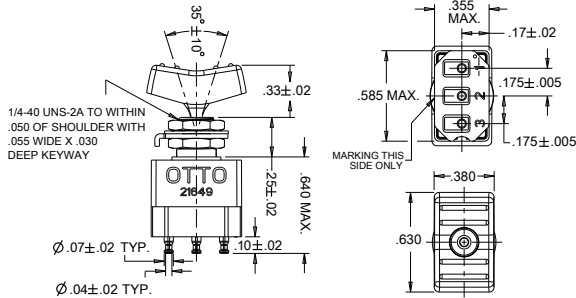
NOTE: () denotes momentary action.



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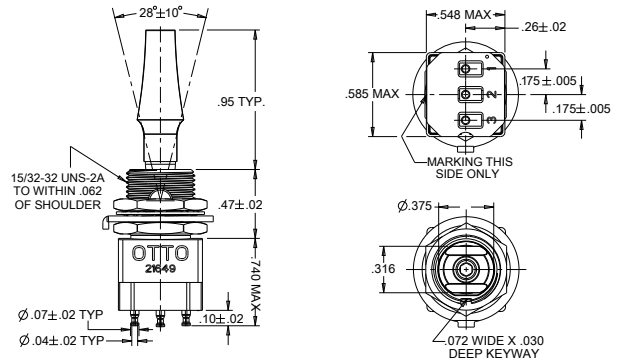
T3-7 Standard Toggle with Rocker Button, 1/4-40 Bushing

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



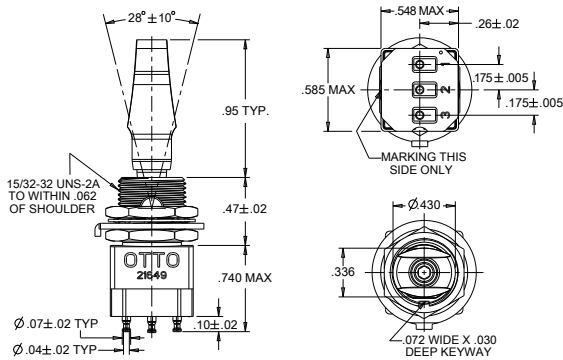
T3-8 Small Paddle Bat Handle Toggle, 15/32-32 Bushing

Sealed front panel construction.



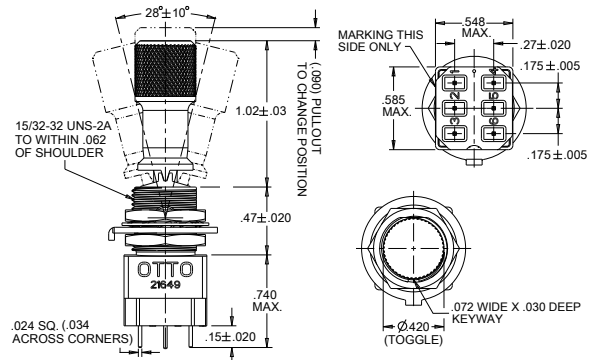
T3-9 Large Paddle Bat Handle Toggle, 15/32-32 Bushing

Sealed front panel construction.

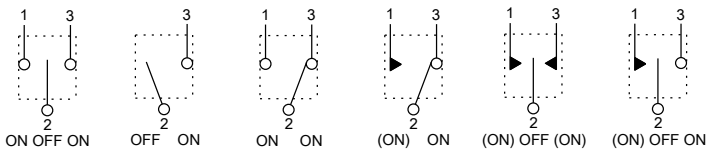


T3-A Standard Toggle, 1/4-40 Bushing

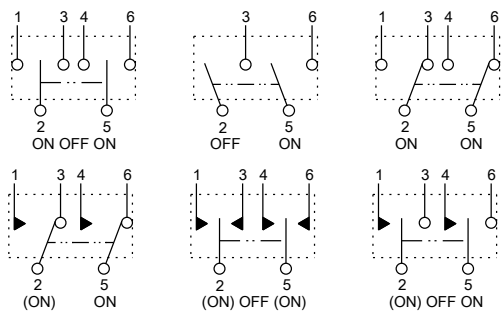
Unsealed front panel construction. Optional front panel seal P/N C700223.



SINGLE POLE SCHEMATICS



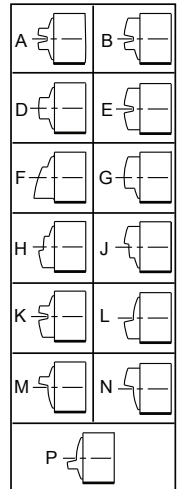
DOUBLE POLE SCHEMATICS



Lever Lockout Configuration Codes

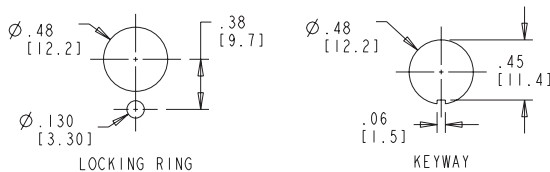
Figures A thru P are schematics to illustrate lockout configurations and momentary positions. They do not represent details of construction.

- 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

