

MOMENTARY ACTION, SEALED SUBMINIATURE PUSHBUTTON SNAP-ACTION SWITCHES

The P7 series incorporates OTTO's patented double break design in a significantly smaller package than the P1 series. These subminiature switches embrace today's technology requirements by allowing for a large number of switches to fit within a faceplate or a small panel space.

The long life snap-action design offers low contact resistance (25mΩ max initial) and is protected from the environment by a silicone rubber boot, operating on a "rolling sleeve" principle that gives long sealed life and smooth operation. Mechanical life is 2 million operations.

The P7 series is designed to meet the requirements of MIL-PRF-8805 including low level switching (10mA @ 30mV) with power switching up to 5 amps at 28VDC as well.

A variety of mounting styles are offered to best match the application. The P7-1, P7-2, P7-7 and P7-8 case styles feature a swaged bushing shape to allow press fit installation in aircraft flight control and hand grips and similar applications. The other styles feature threaded bushing mounting. The P7-3 and P7-A case styles have a front panel bezel, while the P7-5 and P7-6 have conventional bushings for rear panel mounted installations. Silver or black bezels are standard. Other colors available on special order.

Pushbuttons are available in a choice of nine colors. Excellent tactile feedback assures the operator that contact transfer has been made.

A choice of MIL-SPEC and commercial versions of these switches are offered: Moistureproof and dusttight to IP64 and MIL-PRF-8805 Design 2 or watertight to IP68S and to MIL-PRF-8805 Design 3.

Features:

- Low level switching capability
- Less than 25mΩ initial contact resistance
- High contact pressure
- 6 circuit variations
- Positive tactile feedback
- Variety of mounting styles
- Square button option with case style A
- Qualified to MIL-PRF-8805/110
- Mechanical life is 2 million cycles
- Moistureproof and dusttight to IP64 and MIL-PRF-8805 Design 2 or Watertight to IP68S and MIL-PRF-8805 Design 3
- RoHS compliant



Standard Characteristics/Ratings:

	Circuits:	Sea Level @ 28VDC or 115VAC, 60Hz			50,000 feet @ 28VDC or 115VAC, 60Hz		
		1 & 2	3-5	6	1 & 2	3-5	6
Resistive		5A	2.5A	4A	5A	2.5A	4A
Inductive		3A	1.5A	2A	3A	1.5A	2A
Lamp		1A	0.5A	N/A	N/A	N/A	N/A
Motor		3A	1.5A	N/A	N/A	N/A	N/A
DWV		1050Vrms			400Vrms		
Center Contact		3A max					
Low Level		10mA @ 30mV					
Electrical Life:		50,000 cycles full load (25,000 low level)					
Mechanical Life:		2,000,000 cycles					
Seal:		Moistureproof and dusttight to IP64 and MIL-PRF-8805 Design 2 or Watertight to IP68S and MIL-PRF-8805 Design 3					
Operating Temp Range:		-55°C to +85°C					
Operating Force:		1.7 +/- 0.5 lb.					
Total Travel:		0.080 inches max					
Overtravel:		0.010 inches min					
MATERIALS:							
Case:		Anodized aluminum alloy					
Button:		Thermoplastic					
Terminals:		Brass with gold over silver					
Terminal Hardware:		None provided					
Mounting Hardware:		Hex nut, lockwasher and panel gasket when applicable					

COMMERCIAL & MILITARY GRADES


P7
SUBMINIATURE
PUSHBUTTONS

SEALED AGAINST DUST & MOISTURE, LOW LEVEL SWITCHING OPTION

<p>P7-1 Series</p> <p>Case Style 1 Press Fit Mount</p> <p>Also available with PC terminals.</p>		<p>P7-6 Series</p> <p>Case Style 6 15/32" Threaded Bushing</p> <p>Also available with PC pins.</p>																																																																									
<p>P7-2 Series</p> <p>Case Style 2 Press Fit Mount</p> <p>Also available with PC pins.</p>		<p>P7-7 Series</p> <p>Case Style 7 Press Fit Mount</p> <p>Also available with PC pins.</p>																																																																									
<p>P7-3 Series</p> <p>Case Style 3 Bezel/Threaded Bushing</p> <p>Also available with PC pins.</p>		<p>P7-8 Series</p> <p>Case Style 8 Press Fit Mount Guarded Button</p> <p>Also available with PC pins.</p>																																																																									
<p>P7-5 Series</p> <p>Case Style 5 1/4" Threaded Bushing</p> <p>Also available with PC pins.</p>		<p>P7-A Series</p> <p>Case Style A 15/32" Threaded Bushing</p> <p>Square Button Shown</p> <p>Also available with PC pins and round buttons. Round Button versions do not have a D-flat.</p>																																																																									
<p>Terminal Style "A" & "B"</p> <p>Standard</p>		<p>Important Note: Because the base case interface has epoxy applied over it, dimensions to this surface are difficult to measure. This surface is not recommended as a hard stop, due to the extra variation of the epoxy surface.</p> <p align="center">P7 PART NUMBER CODE</p> <p align="center">P7 - X X X X X X</p> <table border="0"> <thead> <tr> <th>Case Style</th> <th>Terminal Style/Construction Grade</th> <th>Circuit Form</th> <th>Contact Rating/Force</th> <th>Case Color/Button Dia.</th> <th>Button Color</th> </tr> </thead> <tbody> <tr> <td>1. Style 1</td> <td>A. Solder/Commercial</td> <td>1. N.O.</td> <td>1. Std. Rating/Std. Force (1.7 lbs.)</td> <td>1. Clear/Std.</td> <td>1. Red</td> </tr> <tr> <td>2. Style 2</td> <td>B. Solder/Watertight</td> <td>2. N.C.</td> <td>2. Low Level/Std. Force (1.7 lbs.)</td> <td>2. Black/Std.</td> <td>2. Black</td> </tr> <tr> <td>3. Style 3</td> <td>Commercial</td> <td>3. N.C. 3 Terminal</td> <td>3. Std. Rating/High Force (4.0 lbs.)</td> <td>3. Clear/0.312 ①</td> <td>3. Orange</td> </tr> <tr> <td>5. Style 5</td> <td>1. Solder/Military/Short</td> <td>4. N.O. 3 Terminal</td> <td>4. Low Level/High Force (4.0 lbs.)</td> <td>4. Black/0.312 ①</td> <td>4. Yellow</td> </tr> <tr> <td>6. Style 6</td> <td>2. Solder/Commercial/Short</td> <td>5. 5 Terminal</td> <td>5. Std. Rating/Low Force (12 oz.)</td> <td>5. Clear/ Square .50 ②</td> <td>5. Green</td> </tr> <tr> <td>7. Style 7</td> <td>3. Solder/Mil. Watertight/Short</td> <td>6. 2 Circuit</td> <td>6. Low Level/Low Force (12 oz.)</td> <td>6. Black/ Square .50 ②</td> <td>6. Blue</td> </tr> <tr> <td>8. Style 8</td> <td>4. PC Pin/Commercial</td> <td></td> <td></td> <td>7. Purple</td> <td>7. Purple</td> </tr> <tr> <td>A. Style A</td> <td>5. PC Pin/Military</td> <td></td> <td></td> <td>8. Gray</td> <td>8. Gray</td> </tr> <tr> <td></td> <td>6. PC Pin/Mil. Watertight</td> <td></td> <td></td> <td>9. White</td> <td>9. White</td> </tr> <tr> <td></td> <td>7. Solder/Com. Watertight/Short</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>8. PC Pin/Com. Watertight</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>① Not available with Case Styles 2 & 5 ② Available with Case Style A only</p>		Case Style	Terminal Style/Construction Grade	Circuit Form	Contact Rating/Force	Case Color/Button Dia.	Button Color	1. Style 1	A. Solder/Commercial	1. N.O.	1. Std. Rating/Std. Force (1.7 lbs.)	1. Clear/Std.	1. Red	2. Style 2	B. Solder/Watertight	2. N.C.	2. Low Level/Std. Force (1.7 lbs.)	2. Black/Std.	2. Black	3. Style 3	Commercial	3. N.C. 3 Terminal	3. Std. Rating/High Force (4.0 lbs.)	3. Clear/0.312 ①	3. Orange	5. Style 5	1. Solder/Military/Short	4. N.O. 3 Terminal	4. Low Level/High Force (4.0 lbs.)	4. Black/0.312 ①	4. Yellow	6. Style 6	2. Solder/Commercial/Short	5. 5 Terminal	5. Std. Rating/Low Force (12 oz.)	5. Clear/ Square .50 ②	5. Green	7. Style 7	3. Solder/Mil. Watertight/Short	6. 2 Circuit	6. Low Level/Low Force (12 oz.)	6. Black/ Square .50 ②	6. Blue	8. Style 8	4. PC Pin/Commercial			7. Purple	7. Purple	A. Style A	5. PC Pin/Military			8. Gray	8. Gray		6. PC Pin/Mil. Watertight			9. White	9. White		7. Solder/Com. Watertight/Short						8. PC Pin/Com. Watertight				
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PUSHBUTTON SWITCHES

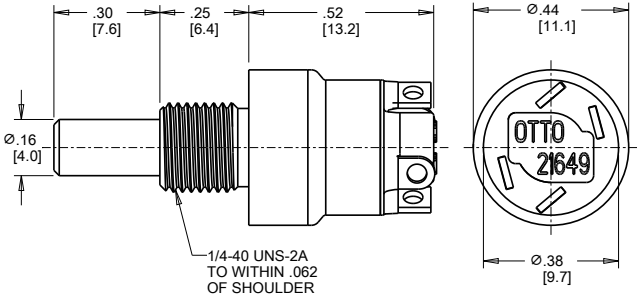
EXAMPLES OF CUSTOMIZED P7 SEALED PUSHBUTTONS



Special Longer Length Button


Panel seal gasket and watertight enclosure.
Button is black nylon. Bezel is black anodized aluminum alloy.

Actuation	OTTO Part Number
Momentary	P7-500001



Dimensions: .30 [7.6], .25 [6.4], .52 [13.2], $\varnothing .16$ [4.0], $\varnothing .44$ [11.1], $\varnothing .38$ [9.7].

1/4-40 UNS-2A TO WITHIN .062 OF SHOULDER

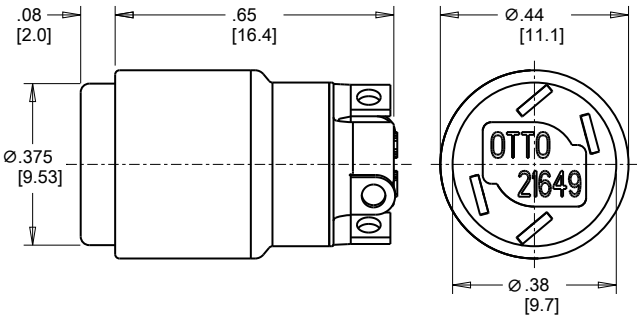


Special Large Button, Press Fit


Available with a 0.375" dia. button with three color options.

Color	OTTO Part Number
Red	P7-900001
Black	P7-900002
White	P7-900009

Contact factory for additional button color options.



Dimensions: .08 [2.0], .65 [16.4], $\varnothing .375$ [9.53], $\varnothing .44$ [11.1], $\varnothing .38$ [9.7].



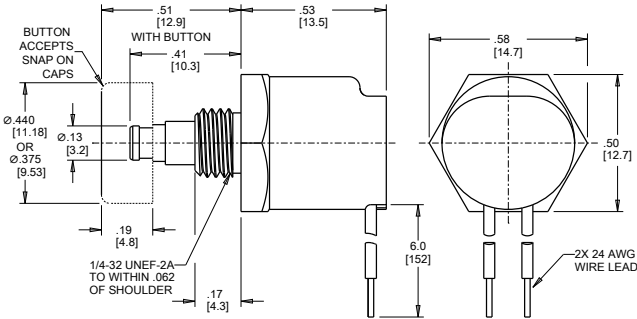
Special Snap-On Button, Wire Leads

Features changeable snap-on button caps available in two diameters and in a range of colors. Switch is splashproof sealed per MIL-PRF-8805 and is supplied with a silicone panel gasket.

Part Number: P7-500018

Button Color	0.440" Dia.	0.375" Dia.
Red	C400725-1	C400723-1
Black	C400725-2	C400723-2
Orange	C400725-3	C400723-3
White	C400725-9	C400723-9

Contact factory for additional button color options.




Dimensions: 51 [12.9], .53 [13.5], 58 [14.7], 50 [12.7], 6.0 [152], .17 [4.3], .19 [4.8], .41 [10.3], .13 [3.2], .18 [4.6], .440 [11.18], $\varnothing .375$ [9.53], $\varnothing .440$ [11.18].

BUTTON ACCEPTS SNAP ON CAPS

1/4-32 UNEF-2A TO WITHIN .062 OF SHOULDER

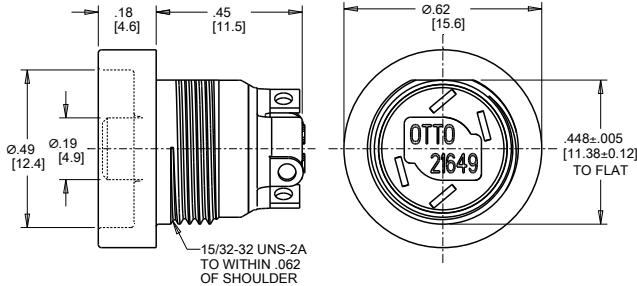
2X 24 AWG WIRE LEADS



Mini Pushbutton, Shrouded

This shrouded pushbutton is designed to reduce the chance of inadvertent actuation. Button size is .19". Enclosure design is watertight per IP68S.

Actuation	OTTO Part Number
Momentary	P7-900196



Dimensions: .18 [4.6], .45 [11.5], $\varnothing .62$ [15.6], $\varnothing .49$ [12.4], $\varnothing .19$ [4.9], .448±.005 [11.38±0.12] TO FLAT.

15/32-32 UNS-2A TO WITHIN .062 OF SHOULDER

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