

MOMENTARY ACTION, SEALED SUB-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.

The long life snap-action design is protected from the environment by a silicon rubber boot, operating on a patented "rolling sleeve" principle that gives long sealed life and smooth operation.

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 case style has 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 contact resistance
- High contact pressure
- 6 circuit variations
- Positive tactile feedback
- Variety of mounting styles
- Qualified to MIL-PRF-8805/110
- Moistureproof & dusttight to IP64 & MIL-PRF-8805 Design 2 or watertight to IP68S & MIL-PRF-8805 Design 3
- RoHS/WEEE/Reach compliant



Standard Characteristics/Ratings:

ELECTRICAL RATINGS:		Sea Level @ 28VDC			50,000 feet @ 28VDC		
Load	Circuits:	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
DVV		1050Vrms			400Vrms		
Center Contact					3A max		
Low Level					10mA @ 30mV		
Electrical Life:		25,000 cycles					
Mechanical Life:		1,000,000 cycles					
Seal:		IP64 and MIL-PRF-8805 Design 2 or 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					

SEALED AGAINST DUST & MOISTURE, LOW LEVEL SWITCHING OPTION

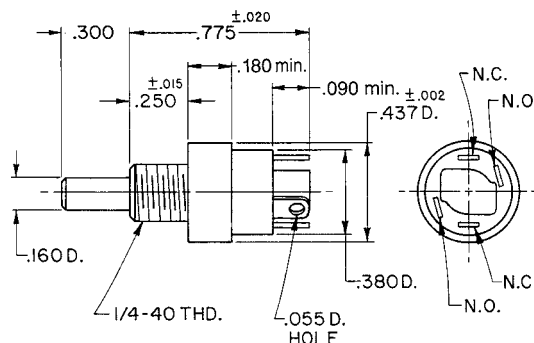
P7-1 Series Case Style 1 Press Fit Mount Also available with PC terminals.		P7-6 Series Case Style 6 15/32" Threaded Bushing Also available with PC pins.																																																																									
P7-2 Series Case Style 2 Press Fit Mount Also available with PC pins.		P7-7 Series Case Style 7 Press Fit Mount Also available with PC pins.																																																																									
P7-3 Series Case Style 3 Bezel/Threaded Bushing Also available with PC pins.		P7-8 Series Case Style 8 Press Fit Mount Guarded Button Also available with PC pins.																																																																									
P7-5 Series Case Style 5 1/4" Threaded Bushing Also available with PC pins.		Terminal Style "A" & "B" Standard																																																																									
PC Pin Mounting Pattern (As viewed from switch bottom. See above drawings for terminal identification.)		P7 PART NUMBER CODE <table><tr><th>Case Style</th><th>Terminal Style/Construction Grade</th><th>Circuit Form</th><th>Contact Rating</th><th>Bezel Color/Button Dia.</th><th>Button Color</th></tr><tr><td>1. Style 1</td><td>A. Solder/Commercial</td><td>1. N.O.</td><td>1. Std.</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</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></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></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></td><td></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></td><td></td><td>6. Blue</td></tr><tr><td>8. Style 8</td><td>4. PC Pin/Commercial</td><td></td><td></td><td></td><td>7. Purple</td></tr><tr><td></td><td>5. PC Pin/Military</td><td></td><td></td><td></td><td>8. Gray</td></tr><tr><td></td><td>6. PC Pin/Mil. Watertight</td><td></td><td></td><td></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></table>		Case Style	Terminal Style/Construction Grade	Circuit Form	Contact Rating	Bezel Color/Button Dia.	Button Color	1. Style 1	A. Solder/Commercial	1. N.O.	1. Std.	1. Clear/Std.	1. Red	2. Style 2	B. Solder/Watertight	2. N.C.	2. Low Level	2. Black/Std.	2. Black	3. Style 3	Commercial	3. N.C. 3 Terminal		3. Clear/0.312 ①	3. Orange	5. Style 5	1. Solder/Military/Short	4. N.O. 3 Terminal		4. Black/0.312 ①	4. Yellow	6. Style 6	2. Solder/Commercial/Short	5. 5 Terminal			5. Green	7. Style 7	3. Solder/Mil. Watertight/Short	6. 2 Circuit			6. Blue	8. Style 8	4. PC Pin/Commercial				7. Purple		5. PC Pin/Military				8. Gray		6. PC Pin/Mil. Watertight				9. White		7. Solder/Com. Watertight/Short						8. PC Pin/Com. Watertight				
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① Not available with Case Styles 1, 2 & 5.

EXAMPLES OF CUSTOMIZED P7 SEALED PUSHBUTTONS



Actuation	OTTO Part Number
Momentary	P7-500001



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

Technical drawing of a 1/2 inch diameter, 10-32 UNF-2A female threaded plug. The drawing includes a side view with dimensions and a cross-section view.

Dimensions:

- Overall length: $.720 \pm .030$
- Threaded section length: $.310$
- Unthreaded section length: $.080$
- Threaded section diameter: $.375 \text{ DIA.} \pm .002$
- Unthreaded section diameter: $.380$
- Thread pitch: $.090 \text{ min.}$
- Bottom hole diameter: $.055 \text{ DIA. HOLE}$
- Bottom hole depth: $.437 \pm .002$

Cross-section view: Shows the internal threads and the bottom hole. Labels include N.O. (Notched), N.C. (Notched), and N.O. (Notched).



Part Number: P7-500018

Technical drawing of a button snap cap assembly. The drawing shows a side view and a top view. Key dimensions include: .168 ± .005 (thread length), .55 MAX (total length), .10 (thread pitch), .35 MAX (cylindrical length), .4950 MAX (cylindrical length), .42 MAX (cylindrical length), .59 MAX (cylindrical length), .500 TYP. (top view diameter), .160 (thread length), .123 ± .001 (thread length), .250-32 UNEF-2A (thread specification), .415 (thread length), .49 W/50 P (thread length), and .26 GA. WIRE LEADS 6' LONG (wire leads). A note indicates 'BUTTON SNAPS ACCEPTS ON CAPS'.

Mini Pushbutton, Shrouded

Technical drawing of a 1/2 Watt 100 Ohm resistor, showing three views: front, side, and end view.

Front View:

- Outer diameter: $\varnothing .615$
- Inner diameter: $\varnothing .490$

Side View:

- Length: $.64$
- Body diameter: $\varnothing .190$
- Lead diameter: $.01$
- Lead length: $.195$
- Lead hole: $\varnothing .055$ HOLE TYP.
- Thread: $.468-32$ UNS-2A THREAD TO WITHIN $.062$ OF SHOULDER
- Distance from potted end: $.090$ MIN. FROM POTTING

End View:

- Outer diameter: $.448 \pm .00$ TO FLAT
- Inner diameter: $\varnothing .490$
- Markings: NC, NO, NO, NC

Mouser Electronics

Authorized Distributor

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OTTO:

[P7-3B6121](#) [P7-3B6122](#) [P7-5B6121](#) [P7-5B6122](#) [P7-6B6121](#) [P7-6B6122](#) [P7-511122](#) [P7-561128](#) [P7-351122](#) [P7-656122](#) [P7-536122](#) [P7-3B6142](#) [P7-112221](#) [P7-821112](#) [P7-821126](#) [P7-821129](#) [P7-626122](#) [P7-656221](#) [P7-712122](#) [P7-734122](#) [P7-751122](#) [P7-814129](#) [P7-551222](#) [P7-555111](#) [P7-571225](#) [P7-5B1121](#) [P7-5B1122](#) [P7-616242](#) [P7-8A1129](#) [P7-811222](#) [P7-511125](#) [P7-515126](#) [P7-536111](#) [P7-381244](#) [P7-3A1128](#) [P7-3A1242](#) [P7-824126](#) [P7-836229](#) [P7-8A1121](#) [P7-332124](#) [P7-371229](#) [P7-371244](#) [P7-376121](#) [P7-376225](#) [P7-381241](#) [P7-316121](#) [P7-321141](#) [P7-326146](#) [P7-326244](#) [P7-331149](#) [P7-331249](#) [P7-534111](#) [P7-311125](#) [P7-311126](#) [P7-311141](#) [P7-311148](#) [P7-314221](#) [P7-5A1121](#) [P7-516126](#) [P7-521129](#) [P7-521211](#) [P7-511111](#) [P7-534121](#) [P7-551221](#) [P7-551229](#) [P7-576121](#) [P7-831128](#) [P7-876221](#) [P7-3B6123](#) [P7-3B6225](#) [P7-7A1142](#) [P7-811122](#) [P7-811226](#) [P7-814121](#) [P7-816119](#) [P7-816228](#) [P7-3B1124](#) [P7-3B1149](#) [P7-3B6242](#) [P7-515128](#) [P7-515221](#) [P7-522119](#) [P7-741123](#) [P7-746122](#) [P7-371243](#) [P7-3A1142](#) [P7-3A1144](#) [P7-611229](#) [P7-621221](#) [P7-631146](#) [P7-632122](#) [P7-651122](#) [P7-722122](#) [P7-1B1224](#) [P7-231221](#) [P7-236222](#) [P7-256221](#) [P7-2B1222](#) [P7-611226](#) [P7-131122](#)