## SEALED COMMERCIAL GRADE PUSHBUTTONS

#### MOMENTARY ACTION, SEALED, SNAP-ACTION, DOUBLE BREAK

Makes and breaks every time! The OTTO design features inherent rocking action that breaks welds and wipes contacts clean.

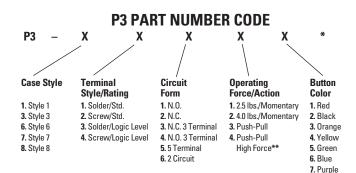
The P3 is the commercial version of the P1 Pushbutton switch, offering vastly improved life under extreme conditions found in some industrial environments. The pushbutton is sealed by a silicone boot operating on our patented "rolling sleeve," providing longer life and smoother operation over a wide temperature range. Epoxy protects the contacts and terminals from hostile environments and solder flux.

High contact force (120g/4.2 oz) and short contact bounce are the result of our snap-action mechanism. These characteristics provide exceptional current carrying capabilities over the life of the switch. With the optional logic level (gold plate) configuration, the P3 is well suited to interface directly to computers and other solid state devices.

Watertight sealing is available by simply adding "W" to your part number. Because the P3 is a double break switch, wide connection possibilities, longer life and greater capacity are offered. The P3 design provides a unique terminal connection to the moving element for added flexibility. Special versions can be provided with five terminals to control up to four circuits.

#### **Features:**

- Button sealed with patented "rolling sleeve" principle
- Contact area sealed at button & terminals
- Positive tactile feedback
- Engraved buttons & bezels available
- UL recognized & CSA certified
- 1 million mechanical cycle life
- Watertight to IP68S available in all versions
- Watertight to IP69K available in non push-pull versions
- RoHS compliant



<sup>\*</sup> Add "W" suffix for watertight to IP68S and IP69K for Operating Force/Action selections 1 and 2. Add "W" suffix for watertight to IP68S for Operating Force/Action selections 3 and 4.

8. Grav

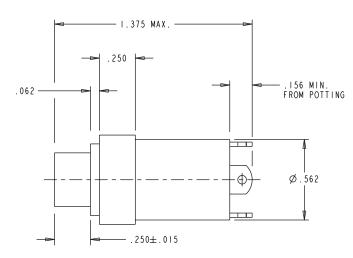


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Standard Characteristics/Ratings:				
ELECTRICAL RATINGS:				
Load	Sea Level @ 28VDC or 115VAC, 60/400Hz	50,000 feet @ 28VDC or 115VAC, 60/400Hz	Cycles	
Resistive	10A	N/A	100,000	
Inductive	5A	5A	100,000	
Lamp	3A	N/A	100,000	
Center Contact	3A max	N/A	100,000	
DWV	1000Vrms	400Vrms		
Logic Level	10mA @ 5VDC			
Electrical Life:	25,000 or 100,000 cy High Force Push Pu	cles (depending on config Ill 5,000 cycles	uration)	
Mechanical Life:	100,000 cycles, circ	1 million cycles, circuit forms 1, 2 & 6 100,000 cycles, circuit forms 3, 4 & 5 High Force Push Pull 5,000 cycles		
Seal:	IP64 or IP68S and II IP64 or IP68S on pu			
Shock:	MIL-STD-202, meth	od 207		
<b>Operating Temp Ran</b>	ge: -55°C to +85°C, High	-55°C to +85°C, High Force Push Pull -40°C to +85°C		
Operating Force:	2.5 lbs. or 4.0 lbs. Push-Pull: .5 to 2.0 l Push-Pull High Ford			
Reset Force:	0.75 lb. min or 1.0 lb			
Total Travel:	0.085 +/- 0.015 inch	es		
Overtravel:	0.012 inches min			
Movement Differenti	al: 0.015 inches min			
MATERIALS:				
Case:	Anodized aluminum	alloy		
Button:	Thermoplastic			
Terminals:	Brass with silver, g	old for logic level		
Terminal Hardware:	Screws, lockwasher	and terminal lug for screw	terminal option	
Mounting Hardware:	Hex nut, lockwashe	er and panel seal when app	olicable	

<sup>\*\*</sup>Available in Case Style 3 only.

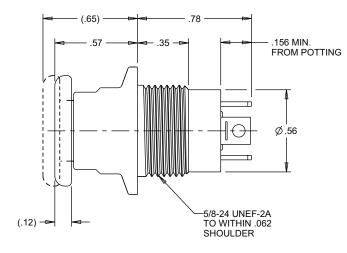
#### IDEAL FOR USE IN HEAVY MACHINERY & COMMERCIAL APPLICATIONS

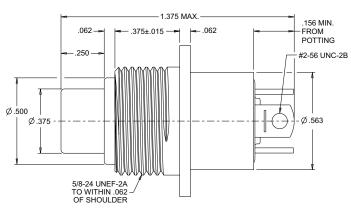


.062 .375±.015 .312±.015 .312±.015 .312±.015 .375±.015 Ø.563 Ø.563 .563 OF SHOULDER

Style P3-11\_2

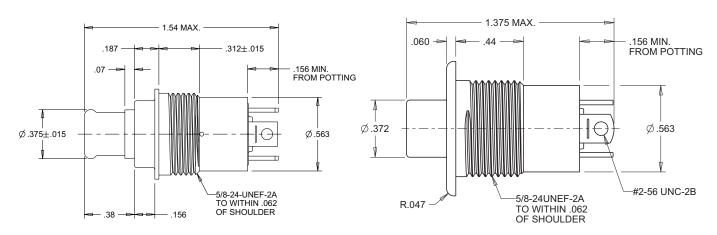
Style P3-33\_3 Push-Pull





Style P3-33 4 Push-Pull High Force

Style P3-61 1



Style P3-71\_3

Style P3-83\_1

# NOTEWORTHY DESIGNS

#### **EXAMPLES OF CUSTOMIZED P3 SERIES SEALED PUSHBUTTONS**

#### **Special Shaped Bezel**

Total Travel: 0.085" +/- 0.015" Operating Force: 2.5, +0.5, -1.0 lb. Reset Force: 0.75 lb. min

Circuit: SPNO-DB (Other circuits available)

Mechanical Life: 1,000,000 cycles

Button: Red nylon

Housing: Clear anodized aluminum

P3-30017



#### **Special Journaled Button**

Watertight to IP68S, black anodized case and thermoplastic button available in nine colors.

Circuit: SPNO-DB

Mechanical Life: 1,000,000 cycles Electrical Life: 100,000 cycles

P3-90308-X

(X denotes button color)



#### Special Large Round Button, **Quick Connect Tab Terminals**

Total Travel: 0.085" +/- 0.015" **Operating Force:** 4.0 +/- 1.0 lb. Reset Force: 1.0 lb. min

Circuit: SPNO-DB (Other circuits available)

Mechanical Life: 1,000,000 cycles

Button: Black nylon

Housing: Clear anodized aluminum

P3-30031



#### **Large Diameter Button**

Nine different button colors, black anodized protective shroud, watertight to IP68S.

Circuit: SPNO-DB

Mechanical Life: 1,000,000 cycles Electrical Life: 100,000 cycles at full load

(X denotes button color)



#### Special Right Angle, Quick Connect Tabs, P3-6 Style

Total Travel: 0.085" +/- 0.015" **Operating Force:** 2.5, +0.5, -1.0 lb. Reset Force: 0.75 lb. min

Circuit: SPNO-DB Mechanical Life: 1,000,000 cycles

Button: Red nylon

Housing: Clear anodized aluminum

P3-60024



#### Special "H" Case with **Round Shaped Button**

**Operating Force:** 4.0 +/- 1.0 lb.

Reset Force: 1 0 lb min

Circuit: SPNC-DB (Other circuits available)

Mechanical Life: 1,000,000 cycles

Button: Red nylon

Housing: Black anodized aluminum

P3-80016



#### Special Snap-In, Panel-Sealed, **Rectangular Shaped Button**

Total Travel: 0.125" max **Operating Force:** 4.0 +/- 1.0 lb. Reset Force: 1.0 lb. min

Circuit: SPNO-DB (Other circuits available)

Mechanical Life: 1,000,000 cycles Button: Black polyester Housing: Clear anodized celenex

P3-90037



#### **Large Diameter Button**

Nylon button is 1.187". Snaps on to special style body with leads. Dusttight to IP64.

Operating Force: 2.5, +0.5, -1.0 lb. Mechanical Life: 1,000,000 cycles Rating: 10 amps Resistive Circuit: SPDT 2 circuit

P3-30101-X



#### **Protective Shroud**

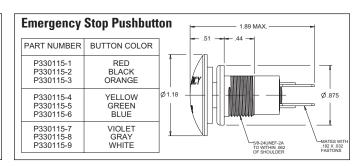
This pushbutton is designed to avoid accidental actuation of the switch. The shroud requires the operator to purposely operate the switch. The actuation occurs below the height of the protective shroud, thus protecting against unintentional actuation.

Same ratings and sealing characteristics as the standard P3 series.

SPNC is shown.

P3-90009





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67021K512 67081K512X 701PB580 7199K101 810K12910 810KSV30B MML21EA2ADK MML21KA3ABK MML23KA3AC05K-001
MML23KW3AA01W 8418K2 8442K3 8450K1 860K11911T01A 861901 861K11911T01A07 861K13810T00A14 861K13911
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