

# 8 Series Pushbutton Switches

## ■ Features

- 1. Contacts**  
Silver or gold-plated contacts.
- 2. Epoxy resin case**  
UL94V-0 self-extinguishing epoxy.
- 3. Actuator style**  
Over 30 actuator variations.
- 4. Insulation between terminal and ground:  
4 mm minimum.**
- 5. Prevention of flux entry**  
The epoxy resin seal on bottom of the switch helps prevent the entry of solder and flux.
- 6. Insulation barrier:**  
Insulation barrier design between poles helps prevent short-circuiting between poles ensuring high reliability.

## ■ Specifications

Rating	Max. rating	6A 125VAC/3A 250VAC/4A 30VDC	
Initial contact resistance	10mΩmax. (1A 2~4VDC)		
Initial dielectric strength	1,500VAC 1 minute		
Initial insulation resistance	1,000MΩ min. (500VDC)		
Electrical life (Excluding <b>8R</b> & <b>8W</b> )	Alternate type	40,000 operations	
	Momentary type	25,000 operations	
Operating temperature range	-30°C~+85°C		
Storage temperature range	-40°C~+85°C		

(Excluding **8R** & **8W**. Specifications on 8R and 8W series are specified separately on P.264 and P.269.)

## ■ Terminal Styles

Solder (Style:1)	Straight (Style:2)

**UL-Recognized, CSA certified Products**  
(Pushbutton type Only)

## ■ Eight Switch Series

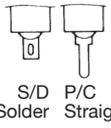
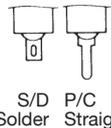
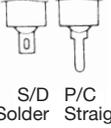
Poles	Switching function	UL (※2.)			CSA (※3.)		
		8N	8P	8Y	8N	8P	8Y
1 pole	<b>1011-Z</b> ON - ON	○	○	○	○	○	○
	<b>1012-Z</b> ON - ON	○	○	○	○	○	○
	<b>1021-Z</b> ON - (ON)	○	○	○	○	○	○
	<b>1022-Z</b> ON - (ON)	○	○	○	○	○	○
2 poles	<b>2011-Z</b> ON - ON	○	○	○	○	○	○
	<b>2012-Z</b> ON - ON	○	○	○	○	○	○
	<b>2021-Z</b> ON - (ON)	○	○	○	○	○	○
3 poles	<b>3011-Z</b> ON - ON	○	○	○	○	○	○
	<b>3021-Z</b> ON - (ON)	○	○	○	○	○	○
4 poles	<b>4011-Z</b> ON - ON	○	○	○	○	○	○
	<b>4021-Z</b> ON - (ON)	○	○	○	○	○	○

(※2.) **UL File No.E43275**

(※3.) **CSA File No.LR38341**

If **UL** or **CSA** marking is required, please specify when ordering.

# 8 Series Pushbutton Switches Selection Table

Part No.	Name	Actuator shape	Number of poles	Switching function	Terminal style	Page
<b>8N</b>	Standard Pushbutton		1.2.3.4	ON — ON ON — (ON)	 S/D Solder P/C Straight	<b>261</b>
<b>8P</b>	Splash Proof Pushbutton		1.2	ON — ON ON — (ON)	 S/D Solder	<b>263</b>
<b>8Y</b>	Mustang Pushbutton		1.2.3	ON — ON ON — (ON)	 S/D Solder	<b>265</b>
<b>8R-N</b>	Soft Touch Pushbutton		1.2	ON — ON ON — (ON)	 S/D Solder P/C Straight	<b>267</b>
<b>8W-N</b>	Snap-in Pushbutton		1.2	ON — (ON)	 S/D Solder P/C Straight	<b>269</b>

## Part Numbering

8
N
1
01
1
B
—
Z

Series code      Actuator shape      Number of poles      Switching function      Terminal style      (※1) Contact plating and material

Code	Actuator
<b>N</b>	Standard
<b>P</b>	Splash proof
<b>Y</b>	Mustang
<b>R</b>	Soft Touch
<b>W</b>	Snap-in

Fig.	Number of poles
<b>1</b>	1
<b>2</b>	2
<b>3</b>	3
<b>4</b>	4

Fig.	Switching function
<b>01</b>	ON — ON
<b>02</b>	ON — (ON)

Fig.	Terminal style
<b>1</b>	Solder
<b>2</b>	PC/Straight

Code	Contact material	Plating
None	Bs+Ag or Cu+Ag	Ag
<b>B</b>	Bs or Cu	Ni+Au
<b>C</b>	Bs+Ag or Cu+Ag	Ni+Au

Note : Some combinations may not be available. Please check the "Table of Part Numbers" for each series.

※1 Bs= Brass  
 Cu= Copper  
 Ag= Silver  
 Ni= Nickel  
 Au= Gold

# 8P

## Panel Seal

## Splash Proof Pushbutton Switches

RoHS Compliant



### ■ Features

The **8P** series is a panel seal pushbutton switch with an O-ring to provide drip-proof and dust proof effect (corresponding to IP67 rating). Since a locking ring cannot be used because the panel seal is required, "D-cutting" is provided to the sleeve to prevent the switch from rotating. Note that the switch can also be mounted to a 6.5 mm dia. round hole instead of a "D-cut" hole without losing the drip-proof and dust proof effect.

### ■ Table of Part Numbers

Terminal style	No. of pole		1 pole	2 poles
	Switching function			
Solder Lug	ON — ON		<b>8P1011-Z</b>	★ <b>8P2011-Z</b>
	ON — (ON)		<b>8P1021-Z</b> ☆ <b>8P1021C-Z</b>	<b>8P2021-Z</b> ▲ <b>8P2021C-Z</b>

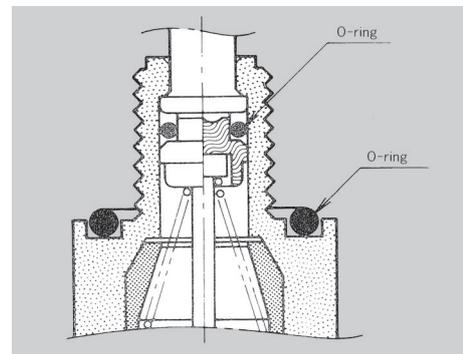
■ **PC Hole Layouts** ————— Page 271.

■ **Panel Cut-Out Dimensions** ————— Page 271.

### ■ Standard Accessories

《Supplied with switch》

Hex Nut	Lockwasher	O-Ring
<b>140008010241</b>	<b>140008030051</b>	<b>140000610076</b>
Nickel plated	Zinc plated	Nitrile rubber (Black)



The 8P series is intended for panel seal and is not designed for use in water.

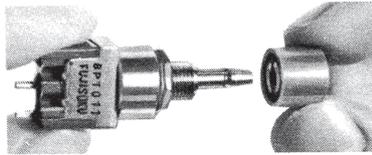
Part name		Color Button		
Dimension A		φ 8	φ 10	φ 15
Dimension B		7.5	8	10
 (Material : PA)	White	<b>140000481420</b>	<b>140000480082</b>	<b>140000480088</b>
	Red	<b>140000481421</b>	<b>140000480083</b>	<b>140000480089</b>
	Black	<b>140000481422</b>	<b>140000480081</b>	<b>140000480090</b>
	Gray	<b>140000481423</b>	<b>140000480084</b>	<b>140000480091</b>

- ★ : Made to order products.
- ☆ : Semi-standard products.
- (ON) : Momentary.
- ▲ : Inquiry products.

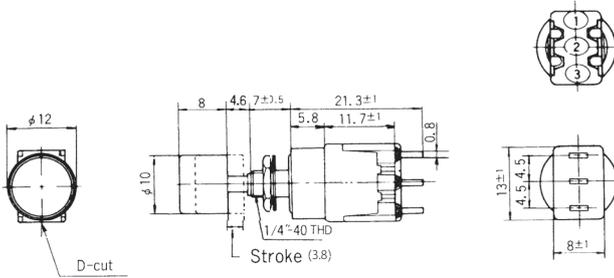
● A Hex Nut, a Lockwasher, and an O-ring are supplied with the switch. A Color Button is also supplied with the switch. Please specify the part number from the above table when ordering.

**Color Button Installation**

Snap in the color button on to the actuator.



**SPDT**



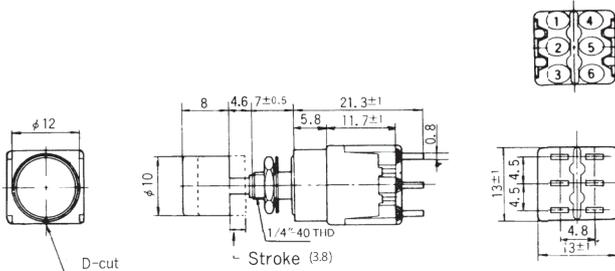
Switching function		
Part No.		
※ 8P101■-Z	ON	ON
8P102■-Z	ON	(ON)
Connecting terminals	2-3	2-1

※ : The circuit switches each time the switch button is pressed.

■ : Please refer to "Table of Part Numbers" on P.263 for a list of full part numbers.

Terminal numbers are not shown on the switch.

**DPDT**



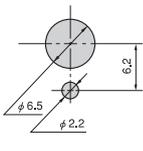
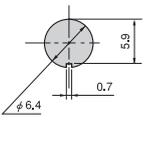
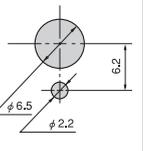
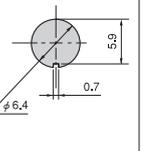
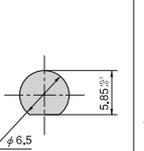
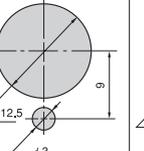
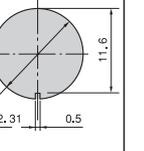
Switching function		
Part No.		
※ 8P201■-Z	ON	ON
8P202■-Z	ON	(ON)
Connecting terminals	2-3 5-6	2-1 5-4

※ : The circuit switches each time the switch button is pressed.

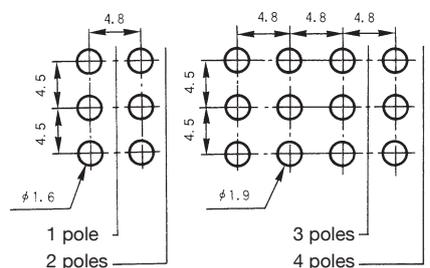
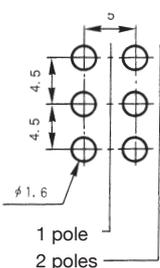
■ : Please refer to "Table of Part Numbers" on P.263 for a list of full part numbers.

Terminal numbers are not shown on the switch.

**Panel Cut-Out Dimensions**

Series	8N		8R		8P	8Y	
Panel thickness	1.5 mm Max.	2.5 mm Max.	2 mm Max.	3 mm Max.	4.5 mm Max.	5 mm Max.	6 mm Max.
Dimensions	 With Locking Ring	 Without Locking Ring	 With Locking Ring	 Without Locking Ring	 With Locking Ring	 With Locking Ring	 Without Locking Ring

**PC Hole Layouts**

Series	8N · 8P	8R · 8W
Dimensions		

**Precautions (8N·8P·8R·8W·8Y)**

**1. Soldering Specifications**

- (1) Manual soldering
  - Device : Solder iron
  - ① 420°C Max. 3 sec. Max.
- (2) Auto soldering
  - ② The above-stated soldering conditions shall apply only to switches with straight terminals. Auto soldering is not possible with right-angle terminals. Switches with right-angle terminals should be soldered manually according to the conditions specified in (1) above.
- (3) When putting the switches through an aging process after they were soldered onto the printing board or after installed into a complete end product, be sure to remove the buttons of the switches.,

**2. Mounting**

- Do not bend the terminals before mounting the switch on the PC board.
- After mounting the switch, do not place the device in such a way that the device weight will be applied on to the actuator of the switch.
- For switches with straight terminals, solder the switch on the PC board after fixing the switch on the panel with a nut.

**3. Flux Cleaning**

- (1) Solvent : Fluorine or Alcohol type.
- (2) 8A/B/C/D/E/F/J/S series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.

**Packaging Specification**

