

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.

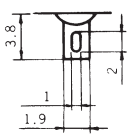
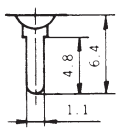
7. For UL-recognized and CSA-approved products, please refer to P.280.

■ Specifications


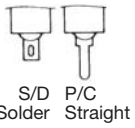

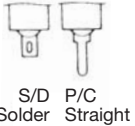



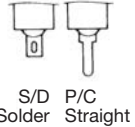

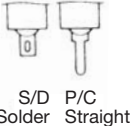
| | | | |
|----------------------------------------|-------------------|------------------------------|--|
| Rating | Max. rating | 6A 125VAC/3A 250VAC/4A 30VDC | |
| Initial contact resistance | 10m Ωmax. | (1A 2~4VDC) | |
| Initial dielectric strength | 1,500VAC 1 minute | | |
| Initial insulation resistance | 1,000MΩ min. | (500VDC) | |
| Electrical life (Excluding 8R & 8W) | 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.271 and P.273.)

■ Terminal Styles

| Solder (Style:1) | Straight (Style:2) |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <p>t=0.8</p>  | <p>t=0.8</p>  |

8 Series Pushbutton Switches Selection Table

| Part No. | Name | Actuator shape | Number of poles | Switching function | Terminal style | Page |
|-------------|-------------------------|-------------------------------------------------------------------------------------|-----------------|----------------------|-----------------------------------------------------------------------------------------------------------------|------------|
| 8N | Standard Pushbutton |  | 1.2.3.4 | ON — ON ON — (ON) |  S/D Solder P/C Straight | 265 |
| 8P | Splash Proof Pushbutton |  | 1.2.3.4 | ON — ON ON — (ON) |  S/D Solder P/C Straight | 267 |
| 8Y | Mustang Pushbutton |  | 1.2.3.4 | ON — ON ON — (ON) |  S/D Solder | 269 |
| 8R-N | Soft Touch Pushbutton |  | 1.2 | ON — ON ON — (ON) |  S/D Solder P/C Straight | 271 |
| 8W-N | Snap-in Pushbutton |  | 1.2 | ON — (ON) |  S/D Solder P/C Straight | 273 |

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 |
|----------|--------------|
| N | Standard |
| P | Splash proof |
| Y | Mustang |
| R | Soft Touch |
| W | Snap-in |

| Fig. | Number of poles |
|----------|-----------------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |

| Fig. | Switching function |
|-----------|--------------------|
| 01 | ON — ON |
| 02 | ON — (ON) |

| Fig. | Terminal style |
|----------|----------------|
| 1 | Solder |
| 2 | PC/Straight |

| Code | Contact material | Plating |
|----------|------------------|---------|
| None | Bs+Ag or Cu+Ag | Ag |
| B | Bs or Cu | Ni+Au |
| C | Bs+Ag or Cu+Ag | Ni+Au |

※1 Brass
 Copper
 Silver
 Nickel
 Gold

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

8R-N

Soft Touch Pushbutton Switches



RoHS compliant

■ Features

The **8R** Soft-Touch Pushbutton switches has a unique snap action structure which provides light and soft tactile feel. The short travel distance (Alternate action: 2.5 mm, Momentary: 1 mm) and the low-profile design make the 8R series suitable for applications where panel space is limited.

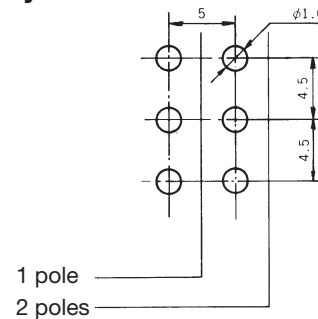
■ Specifications

| | | | |
|-------------------------------|--------------------------------------------------|----------------------------------|----------------------------------------|
| Rating | Silver plated | 3A 125VAC (Resistive load) | |
| | Gold plated | Max. 60mA 30VDC (Resistive load) | |
| Initial contact resistance | Silver plated | 10mΩ max. (1A 2~4VDC) | |
| | Gold plated | 20mΩ max. (5mA 200μVAC) | |
| Initial Dielectric strength | 1,000VAC 1 minute | | |
| Initial insulation resistance | 1,000MΩ min. (500VDC) | | |
| Electrical life | 25,000 operations (50,000 operations:Gold plate) | | |
| Operating temperature range | -20°C~+85°C | | |
| Storage temperature range | -40°C~+85°C | | |
| Operating force | Alternate type | 8R101■-N-Z | 3.92±1.96N |
| | | 8R201■-N-Z | 4.9± ^{2.94} _{1.96} N |
| | Momentary type | 8R102■-N-Z | 2.94±0.98N |
| | | 8R202■-N-Z | 4.9± ^{1.96} _{0.98} N |

■ Table of Part Numbers

| Terminal style | | 1-pole | 2-pole |
|----------------|----------|-----------------------------|-----------------------------|
| Solder | ON - ON | 8R1011-N-Z ★8R1011B-N-Z | ★8R2011-N-Z ★8R2011B-N-Z |
| | ON -(ON) | 8R1021-N-Z 8R1021B-N-Z | 8R2021-N-Z ★8R2021B-N-Z |
| PC | ON - ON | ☆8R1012-N-Z ☆8R1012B-N-Z | ★8R2012-N-Z ★8R2012B-N-Z |
| | ON -(ON) | 8R1022-N-Z ☆8R1022B-N-Z | 8R2022-N-Z ★8R2022B-N-Z |

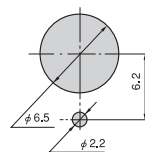
■ PC Hole Layouts



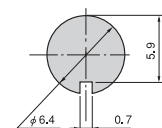
■ Terminal Styles Page 263.

■ Panel Cut-Out Dimensions

Panel thickness : 2 mm max.



With Locking Ring

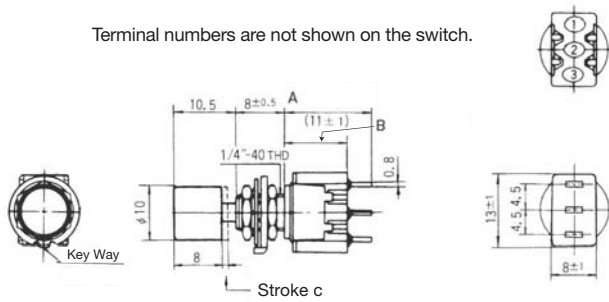


Without Locking Ring

SPDT



Terminal numbers are not shown on the switch.



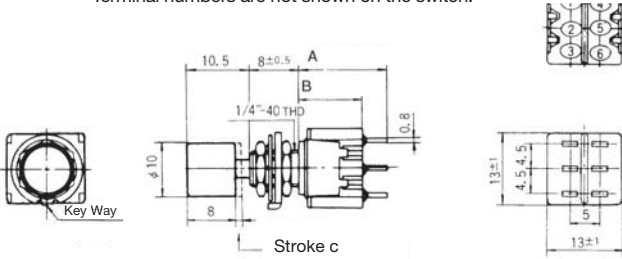
| Switching function | | |
|----------------------|-----|------|
| Part No. | | |
| ※ 8R101■-N-Z | ON | ON |
| 8R102■-N-Z | ON | (ON) |
| Connecting terminals | 3-2 | 3-1 |

■ : Please refer to "Table of Part Numbers" on P.271 for a list of full part numbers.

DPDT



Terminal numbers are not shown on the switch.



| Switching function | | |
|----------------------|------------|------------|
| Part No. | | |
| ※ 8R201■-N-Z | ON | ON |
| 8R202■-N-Z | ON | (ON) |
| Connecting terminals | 3-2 6-5 | 3-1 6-4 |

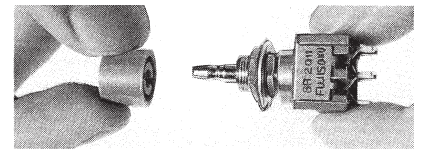
■ : Please refer to "Table of Part Numbers" on P.271 for a list of full part numbers.

Standard Accessories (8R & 8R)

《Supplied with switch》

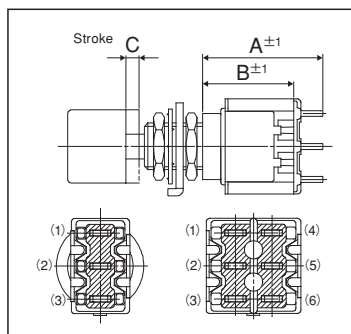
| Hex Nut | Lockwasher | Locking Ring |
|---------------|--------------|--------------|
| 140008010241 | 140008030051 | 140008020062 |
| | | |
| Nickel plated | Zinc plated | Zinc plated |

Color Button Mounting



Snap in the color button on to the actuator.

| Part name | Color Button | | | |
|------------------------|--------------|--------------|--------------|--------------|
| Dimension A | φ 8 | φ 10 | φ 15 | |
| Dimension B | 7.5 | 8 | 10 | |
| <p>(Material : PA)</p> | White | 140000481420 | 140000480082 | 140000480088 |
| | Red | 140000481421 | 140000480083 | 140000480089 |
| | Black | 140000481422 | 140000480081 | 140000480090 |
| | Gray | 140000481423 | 140000480084 | 140000480091 |
| | Green | 140000481424 | 140000480085 | 140000480092 |
| | Blue | 140000481425 | 140000480086 | 140000480093 |
| | Orange | 140000481426 | 140000480087 | 140000480094 |
| | Yellow | 140000481427 | 140000480371 | 140000480372 |



| Terminal Style | Number of poles | Switching Function | Parts No. | Dimension A | Dimension B | Dimension C |
|----------------|-----------------|--------------------|-------------|-------------|-------------|-------------|
| S/D | 1 pole | ON - ON | 8R1011■-N-Z | 16.5 | 12.5 | 2.5 |
| | | ON - (ON) | 8R1021■-N-Z | 15.0 | 11.0 | 1.0 |
| | 2 poles | ON - ON | 8R2011■-N-Z | 16.5 | 12.5 | 2.5 |
| | | ON - (ON) | 8R2021■-N-Z | 15.0 | 11.0 | 1.0 |
| P/C | 1 pole | ON - ON | 8R1012■-N-Z | 18.9 | 12.5 | 2.5 |
| | | ON - (ON) | 8R1022■-N-Z | 17.4 | 11.0 | 1.0 |
| | 2 poles | ON - ON | 8R2012■-N-Z | 18.9 | 12.5 | 2.5 |
| | | ON - (ON) | 8R2022■-N-Z | 17.4 | 11.0 | 1.0 |

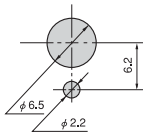
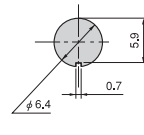
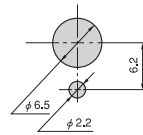
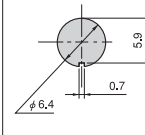
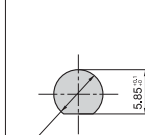
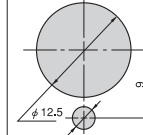
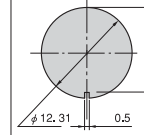
■ : Blank for silver-plated contacts. "B" for gold-plated contacts. □ : Gold plated

●Hex Nut (2 pcs), Lockwasher (1 pc), and Locking Ring (1 pc) 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.

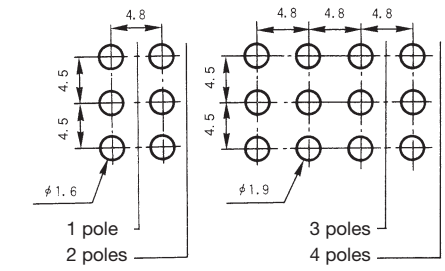
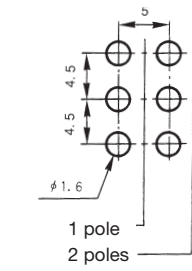
(ON) : Momentary.

Eight 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 | 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

② 275°C ±10°C 5 sec. Max.

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

