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8N

Standard Pushbutton Switches



RoHS Compliant

■Features

The **8N** standard pushbutton switch is the basic type of "8" Series. Momentary and alternate functions are available. **Color button** is available in 8mm, 10mm and 15mm diameter and in eight colors.

■Table of Part Numbers

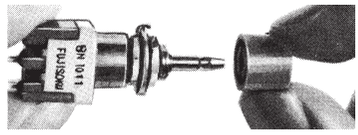
Terminal style	No. of ploe / Switching function	1 pole	2 poles	3 poles	4 poles
Solder Lug	ON — ON	**8N1011—Z** ★ **8N1011C—Z**	☆ **8N2011—Z** ▲ **8N2011C—Z**	★ **8N3011—Z** ——	▲ **8N4011—Z** ——
	ON — (ON)	**8N1021—Z** ▲ **8N1021C—Z**	**8N2021—Z** ★ **8N2021C—Z**	★ **8N3021—Z** ——	★ **8N4021—Z** ——
Straight PC	ON — ON	★ **8N1012—Z**	★ **8N2012—Z**	——	——
	ON — (ON)	☆ **8N1022—Z**	☆ **8N2022—Z**	——	——

■PC Hole Layouts

Page 275.

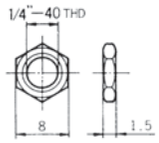
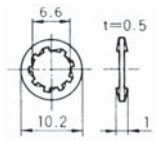
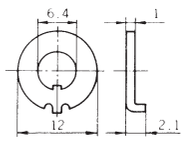
■Color Button Mounting

Snap in the color button on to the actuator.



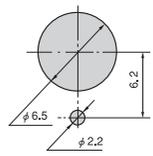
■Standard Accessories

《Supplied with switch》

Hex Nut	Lockwasher	Locking Ring
140008010241	**140008030051**	**140008020062**
		
Nickel plated	Zinc plated	Zinc plated

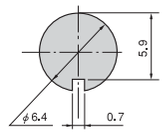
■Panel Cut-Out Dimensions

t=1.5mmMAX.

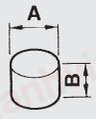


With **Locking Ring**

t=2.5mmMAX.



Without **Locking Ring**

Part name		Color Button		
Dimension **A**		φ8	φ10	φ15
Dimension **B**		7.5	8	10
	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**
(Material : PA)	Yellow	**140000481427**	**140000480371**	**140000480372**

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

●**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.

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8P

Splash Proof Pushbutton Switches

Panel Seal



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

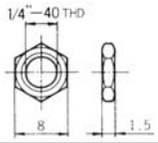
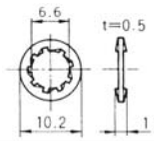
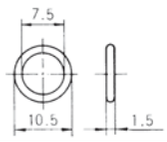
Terminal style	No. of ploe / Switching function	1 pole	2 poles	3 poles	4 poles
Solder Lug	ON — ON	**8P1011−Z**	★ **8P2011−Z**	★ **8P3011−Z**	▲ **8P4011−Z**
	ON — (ON)	**8P1021−Z** ☆ **8P1021C−Z**	**8P2021−Z** ▲ **8P2021C−Z**	★ **8P3021−Z**	★ **8P4021−Z**
Straight PC	ON — ON	★ **8P1012−Z**	★ **8P2012−Z**	—	—
	ON — (ON)	★ **8P1022−Z**	★ **8P2022−Z**	—	—

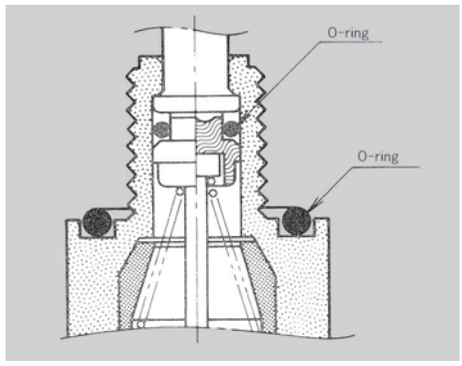
■PC Hole Layouts Page 271.

■Panel Cut−Out Dimensions Page 271.

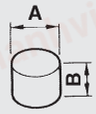
■ Standard Accessories

《Supplied with switch》

Hex Nut	Lockwasher	O-Ring
140008010241	**140008030051**	**140000610076**
		
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**		ϕ8	ϕ10	ϕ15
Dimension **B**		7.5	8	10
	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**
(Material : PA)	Yellow	**140000481427**	**140000480371**	**140000480372**

★ : 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.

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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.

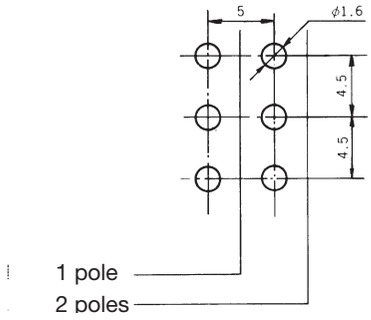
■ Specifications

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℃～+85℃		
Storage temperature range	−40℃～+85℃		
Operating force	Alternate type	**8R101■−N−Z**	3.92±1.96N
		8R201■−N−Z	$4.9\pm^{2.94}_{1.96}$N
	Momentaly type	**8R102■−N−Z**	2.94±0.98N
		8R202■−N−Z	$4.9\pm^{1.96}_{0.98}$N

■Table of Part Numbers

Terminal style	No. of ploe / Switching function	1−pole	2−pole
S/D (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**
P/C	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

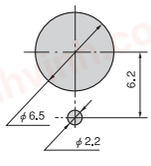


■Terminal Styles

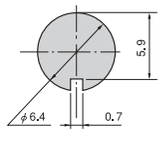
····· Page 259.

■Panel Cut−Out Dimensions

Panel thickness : 2 mm max.



With **Locking Ring**



Without **Locking Ring**

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

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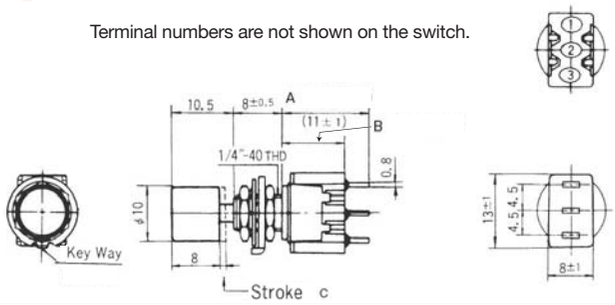
8R

SPDT



Terminal numbers are not shown on the switch.



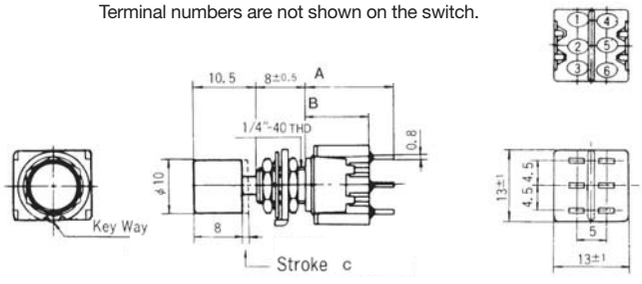
Part No. \ Switching function		
※ 8R101■−N−Z	ON	ON
8R102■−N−Z	ON	(ON)
Connecting terminals	3−2	3−1

■ : Please refer to "Table of Part Numbers" on P.267 for a list of full part numbers.

DPDT



Terminal numbers are not shown on the switch.

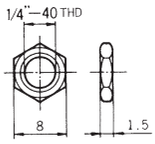
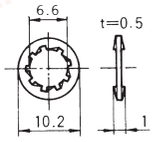
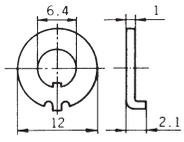


Part No. \ Switching function		
※ 8R201■−N−Z	ON	ON
8R202■−N−Z	ON	(ON)
Connecting terminals	3−2 6−5	3−1 6−4

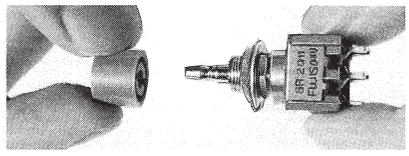
■ : Please refer to "Table of Part Numbers" on P.267 for a list of full part numbers.

■ Standard Accessories (8R & 8R−B)

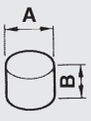
《Supplied with switch》

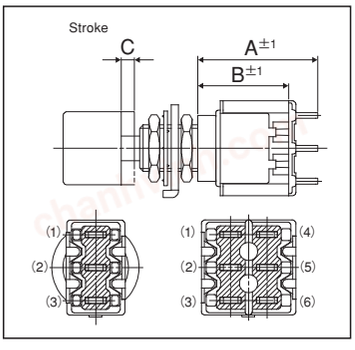
Hex Nut	Lockwasher	Locking Ring
140008010241	140008030051	140008020062
		
Nickel plated	Zinc plated	Zinc plated

■ Color Button Mounting



Snap in the color button on to the actuator.

Part name		Color Button		
Dimension **A**		ϕ8	ϕ10	ϕ15
Dimension **B**		7.5	8	10
	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
(Material : PA)	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. [B] : 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. (ON) : Momentary.
Please specify the part number from the above table when ordering.

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SP101

Pushbutton Switches



RoHS Compliant

■Features

1. Sharp Tactile Feel
Snap action mechanism provides light tactile feel.

2. Gold-Plated Contacts for Low Current Applications

3. Compatible with PC Board Mount and Snap-in Panel Mount

4. 3 Types of Terminals
Terminal styles are available in Solder terminal, PC terminal, and connector socket (EHR-5 from JST).

■Specifications

Rating	60mA 30VDC Max.
Initial contact resistance	50mΩ max. (1.5mA 200μVAC)
Dielectric strength	500VAC 1 minute
Initial insulation resistance	1,000MΩ min. (500VDC)
Electrical life	50,000 operations
Operating force	2.94±0.98N
Operating temperature range	−20～+85℃
Storage temperature range	−40～+85℃

■Part Numbering

SP 1 01 C — P

Series: SP

Poles:

1	1 pole

Currents: 01

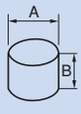
Switching function:

C	OFF — (ON)
F	ON — (ON)

Terminal style:

None	Solder Terminal
P	PC Straight
C	Connector Socket

■Optional Accessories

Part Name		Color Button		
Dimension **A**		ϕ8	ϕ10	ϕ15
Dimension **B**		7.5	8	10
 (Polyamide resin)	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

■Table of Part Numbers

Terminal style	Switching function	
	OFF — (ON)	ON — (ON)
Solder Terminal	★SP101C	★SP101F
PC Straight	——	★SP101F—P
Connector Socket	——	SP101F—C

★ : Made to order products. :Optional Accessories. (ON) : Momentary.