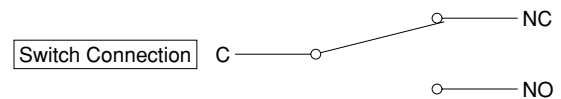


## PH Subminiature Pushbutton Switch

Small type Pushbutton Switch which has a lot of variations.

### ■ FEATURES

- Small type Pushbutton switch with nut fixing and Snap-in type.
- Button size:  
12mm square type, 12×17.2mm rectangular type, 10mm round type available.
- Silver, Gold Plated Silver and W/E Alloy Cross-bar Contacts.



## SPECIFICATIONS


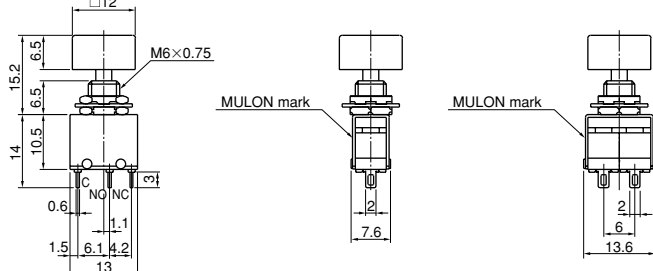

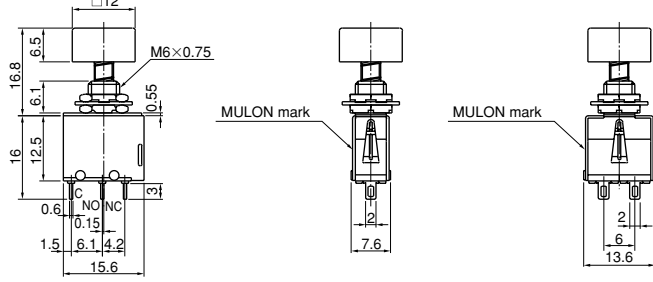

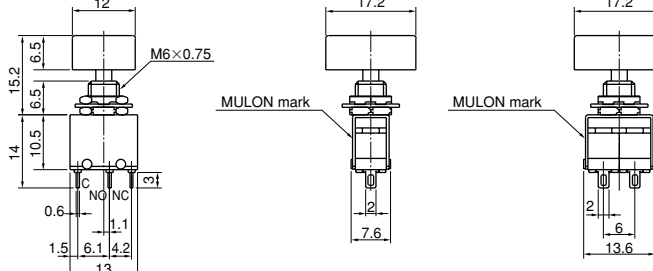

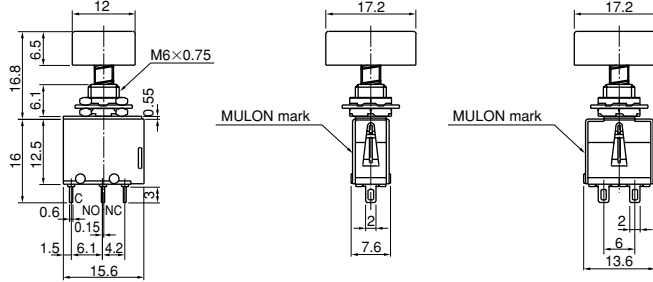

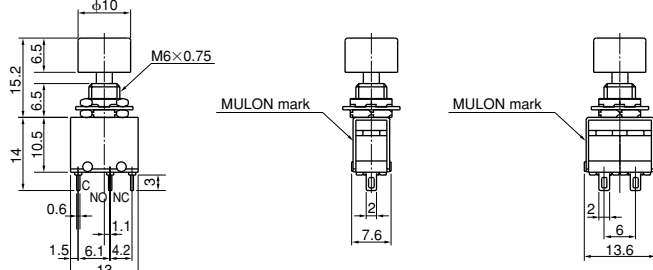

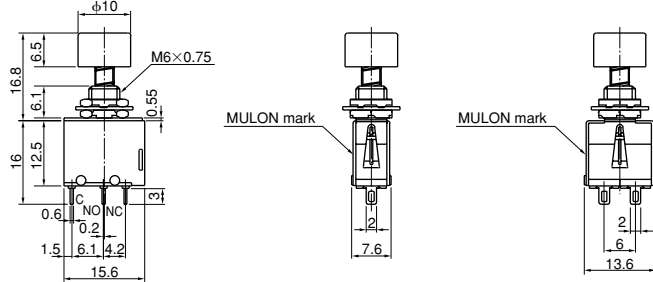
Contact	Silver	Gold Plated Silver	W/E Alloy #1 Cross-bar
Rating	5A 125, 250VAC (Res. Load)		0.1A 125VAC, 0.1A 30VDC (Res. Load)
Insulation Resistance	More than 100MΩ at 500VDC Megger		
Dielectric Strength	1000V AC between Terminals 1500V AC between Terminal and Ground		600VAC between Terminals 1500VAC between Terminal and Ground
	(Both 50/60Hz in normal temperature & humidity in one munite)		
Contact Resistance	Less than 30mΩ (at initial), at 1A 6VDC	Less than 50mΩ (at initial), Milliohmmeter	Less than 50mΩ (at initial), at 0.1A 6VDC
Mechanical Life	Momentary : 300,000 operations (min.), Alternate : 200,000 operations (min.)		
Electrical Life	50,000 operations (min., at rated load)		100,000 operations (min., at rated load)
Ambient Temperature	-15°C~50°C		
Ambient Humidity	Up to 80% RH		

## CHARACTERISTICS

Type	Operating Form	Circuit	Operating Force (Max.)	Total Travel (mm Max.)
PH-M1	Momentary	SPDT	1.96N	1.5
PH-M2		DPDT	3.92N	
PH-A1	Alternate	SPDT	2.45N	3.2
PH-A2		DPDT		

## DIMENSIONS


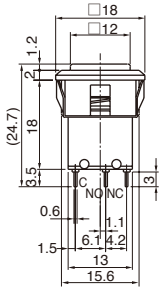
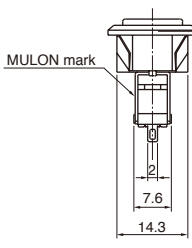
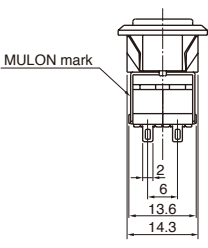

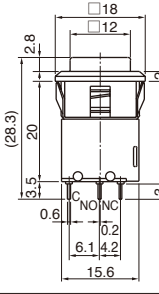
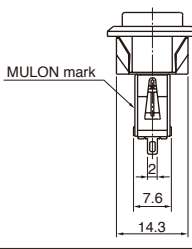
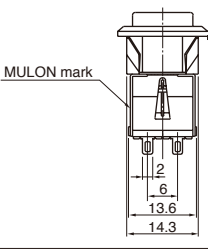

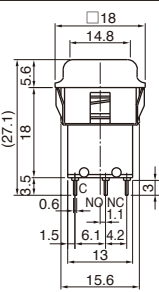
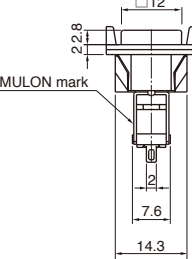
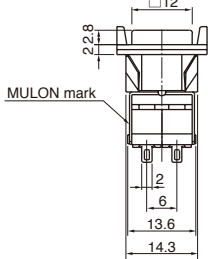

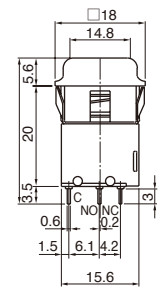
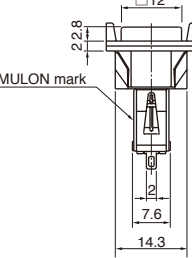
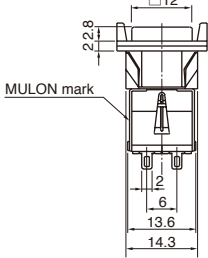
### ● Hex Nut Fixing Rear Mount Type

□ 12 Square Button	<b>Momentary</b> 	
	<b>Alternate</b> 	
12×17.2 Rectangular Button	<b>Momentary</b> 	
	<b>Alternate</b> 	
φ10 Round Button	<b>Momentary</b> 	
	<b>Alternate</b> 	


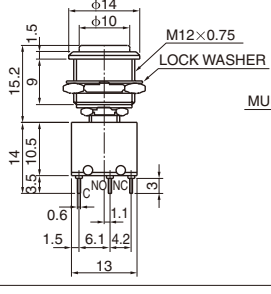
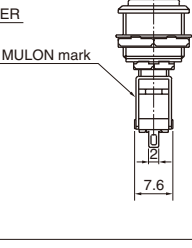
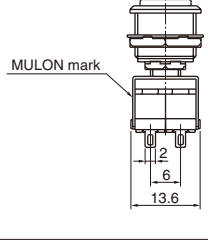

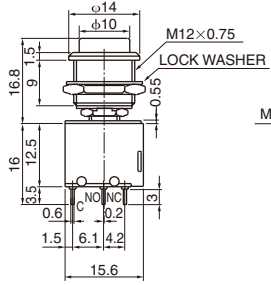
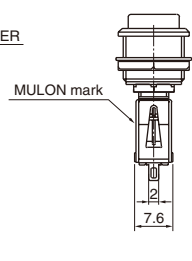
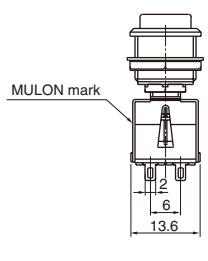
Tolerance : ±0.4mm

DIMENSIONS

● Snap-in Front Mount Type

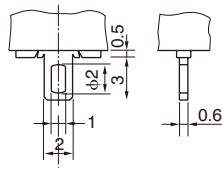
S-Mounter □12 Square Button				
				
V-Mounter □12 Square Button				
				

● Hex Nut Fixing Front Moun Type

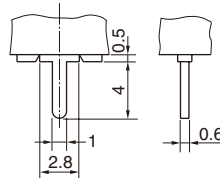
Dress Guard φ10 Round Button				
				

## TERMINAL SHAPE / DIMENSIONS

### ● TERMINAL SHAPE

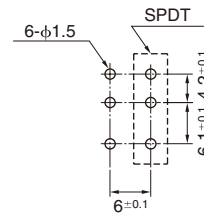


Soldering Terminal



P.C. Terminal

### ● PCB HOLE DIMENSIONS (BOTTOM VIEW)



## PANEL LAYOUT VARIATIONS

### ● S, V Type Mounter

Panel Cut Dimensions	Panel Layout
<p style="text-align: center;"> <math>16 \pm 0.15</math>  <math>14.5 + 18(n-1) \pm 0.15</math> </p> <p style="text-align: center;">                     n : Number of switches in the row                      Panel Thickness : 1mm~3.2mm                      MULON Symbol are at the left or right                 </p>	<p style="text-align: center;">                     more than 5mm                      more than 3mm                 </p> <p style="text-align: center;">MULON Symbol are at the left or right</p>

## REPLACEMENT PARTS

Please indicate parts numbers when order.

#### ● Rectangular Button

Color	Part No.
Red	PH-0390-R
White	PH-0390-W
Green	PH-0390-G
Yellow	PH-0390-Y
Blue	PH-0390-B
Black	PH-0390-K

#### ● □ 12 Square Button

Color	Part No.
Red	PH-316-R
White	PH-316-W
Green	PH-316-G
Yellow	PH-316-Y
Blue	PH-316-B
Black	PH-316-K

#### ● φ10 Round Button

Color	Part No.
Red	PH-238-1R
White	PH-238-1W
Green	PH-238-1G
Yellow	PH-238-1Y
Blue	PH-238-1B
Black	PH-238-1K

Tolerance : ±0.4mm

## ORDERING CODE

### Hex. Nut Fixing Rear Mount / Front Mount Type

PH — [ ] [ ] [ ] [ ] 1 [ ] [ ] [ ] — [ ]

● **Operation**

M	Momentary
A	Alternate

● **Contact Arrangement**

1	SPDT
2	DPDT

● **Button Shape**

S	□12 Square
W	12×17.2 Rec.
R	φ10 Round
X	Without Button

● **Button Color**

R	Red
W	White
Y	Yellow
G	Green
B	Blue
K	Black
X	Without Button

● **Dress Guard**

Blank	Without
D	With

※ φ10 Round type only

● **Epoxy Seal**

Blank	No seal
P	With epoxy seal

● **Contact Materials**

1	Silver
2	Gold plated silver
3	W/E Alloy Cross-bar

● **Terminals**

S	Solder
C	Print Circuit

### Snap-in Front Mount Type ( S, V, L )

PH — [ ] [ ] [ ] [ ] [ ] [ ] [ ] — [ ] [ ]

● **Operation**

M	Momentary
A	Alternate

● **Contact Arrangement**

1	SPDT
2	DPDT

● **Button Shape**

S	□12 Square
W	12×17.2 Rec.
X	Without Button

● **Button Color**

R	Red
W	White
Y	Yellow
G	Green
B	Blue
K	Black
X	Without Button

● **Mounter Color**

B	Black
G	Grey

● **Mounter Type**

S	S mounter Type
V	V mounter Type

● **Epoxy Seal**

Blank	No seal
P	With epoxy seal

● **Contact Materials**

1	Silver
2	Gold plated silver
3	W/E Alloy Cross-bar

● **Terminals**

S	Solder
C	Print Circuit