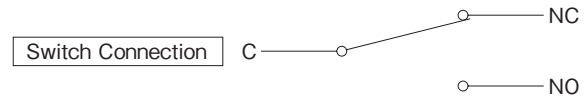
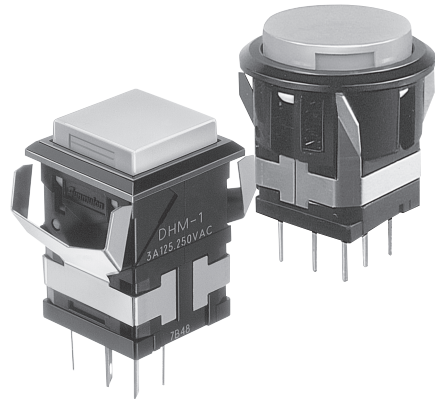


## DH Illuminated Pushbutton Switch

**Only 21.5mm depth behind panel with LED Full Face, Illumination.**

**FEATURES**

- Depth behind panel : Only 21.5mm.
- LED Full Face Illumination provided.
- Button size : 14.2mm square type, 20.2mm round type.
- Incorporated snap action switch is furnished with coil spring. It assures long life (Mechanical : 2,000,000 operations min.) and good switching touch.
- Contact mechanism has wiping action, and it's self-cleaning effect permits high reliability.



### SPECIFICATIONS

Contact	Silver	Gold Plated Silver
Electrical Rating	3A 125, 250V AC (Resistive Load)	
Insulation Resistance	Over 100MΩ at DC 500V meger	
Dielectric Strength	Between Terminals : 1,000V AC RMS	
	Between Terminals and Ground : 1,500V AC RMS	
	Between Lamp Terminals: 400V AC RMS	
	50 ~60Hz in normal temperature & humidity in one minute	
Contact Resistance	Under 30mΩ (at initial) (at 1A 6V DC)	Under 50mΩ (at initial) by milliohmeter
Mechanical Life	Momentary : 2,000,000 operations (min.), Alternate : 200,000 operations (min.)	
Electrical Life	100,000 operations (min., at rated load)	
Ambient Temperature	-15°C~50°C	
Ambient Humidity	80% RH (max.)	

### OPERATING CHARACTERISTICS

Operating Force (MAX)	4.41N	Total Travel (mm MAX)	3
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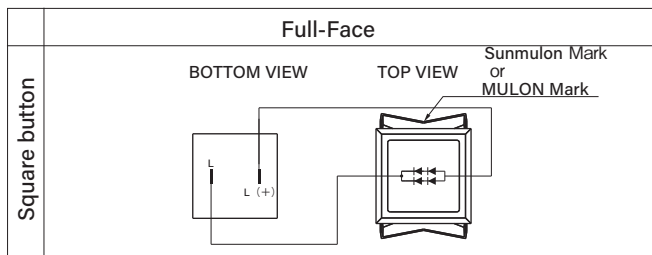
## DIMENSIONS

14.2 mm Square button		
20.2 mm Round button ※Non Illuminated type only.		

Tolerance :  $\pm 0.4\text{mm}$

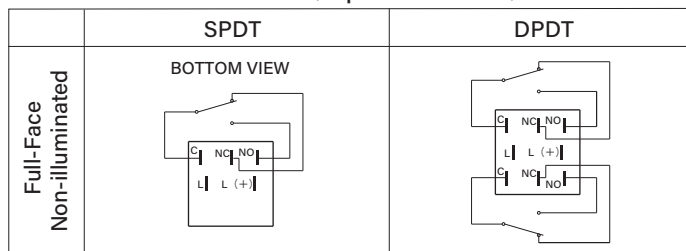
## INTERNAL CONNECTION ARRANGEMENT

### ● LED Full-Face

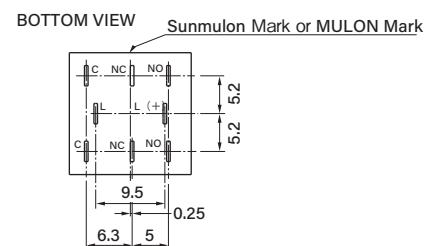


## TERMINALS

### ● TERMINALS LAYOUT (Square • Round)



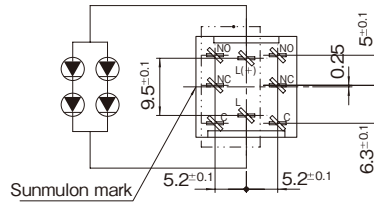
### ● TERMINAL DIMENSION



Tolerance :  $\pm 0.4\text{mm}$

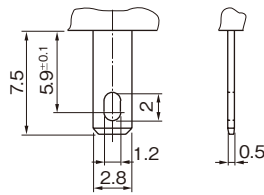
## TERMINAL LAYOUT / INTERNAL ARRANGEMENT

### ● Switch



## TERMINAL DIMENSIONS

### ● TERMINAL SHAPE



#110 Tab/Solder Terminal

## LED DATA

### ● LED Full Face Display(Calculated at 4 chips LED)

ITEM	LED Full Face	
	Parallel	
	Red, Yellow	Green
Max. Operating Current $I_{FM}$ (mA)	40	40
DC Reverse Voltage $V_R$ (V)	10	10
Forward Voltage $V_F$ (V)	4	4.2
Recommended Operating Current $I_F$ (mA)	15	25

※ In case of pulse lighting, please note following conditions.

$I_{FM}$  =100mA(DC current for one LED, all colors)

Where : Pulse width(PW)=100  $\mu$ . sec.

Duty Ratio (DR)=10<sup>-1</sup>

## EXTERNAL RESISTOR

Internal LED protective resistor are not incorporated. Refer to the following values for series connection.

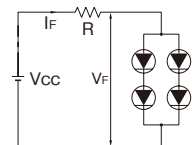
### ● LED Full Face Display(Calculated at 4 chips LED)

Voltage(V)	Red, Yellow	Green
5V ( $\pm$ 5%)	100 $\Omega$ 1/8W	33 $\Omega$ 1/8W
12V ( $\pm$ 5%)	620 $\Omega$ 1/4W	330 $\Omega$ 1/4W
24V ( $\pm$ 5%)	1500 $\Omega$ 1/2W	820 $\Omega$ 1/2W

The value of the series resistor can be determined by the formula:

$$R = \frac{V_{CC} - V_F}{I_F}$$

$V_{CC}$ : Supply Voltage  
 $V_F$ : Forward Voltage  
 $I_F$ : Forward Current



## PANEL LAYOUT / PANEL CUT DIMENSIONS

### ● 14.2 Square Button

Panel thickness 1mm~3.2mm

		Panel Layout	Panel Cut Dimensions
Without Barriers	Independent		
	Serial		
With Barriers	Independent		
	Serial		

### ● φ20.2 Round Button

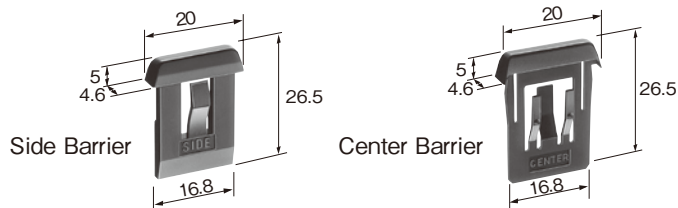
Panel Layout	Panel Cut Dimensions

※ Panel Cut Dimension should be after Panel Painting.

## OPTIONAL ACCESSORIES

### Barriers for 14.2 Square Button only

- Using Barriers helps prevent inadvertent actuation of neighboring switches with one push, if strip mounting is required. Also, they may improve panel appearance.

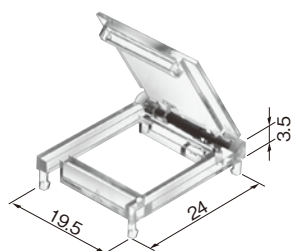


Color	Center Barrier	Side Barrier
Black	DH-324-B	DH-323-B
White	DH-324-W	DH-323-W

### Guard Cover for 14.2 Square Button only

- Guard Cover prevents inadvertent or unintentional operations. Button cannot be operated unless open clear cover. Guard Cover is used with Guard Side or Guard Center Barriers. For strip mount, panel cutout dimensions are same as Barriers.

#### ● 14.2 Square Button



Guard Cover	DH-450
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※ Cover to be opened 180°



Guard Center Barrier



Guard Side Barrier

Color	Guard Center Barrier	Guard Side Barrier
Black	DH-443-B	DH-442-B
White	DH-443-W	DH-442-W

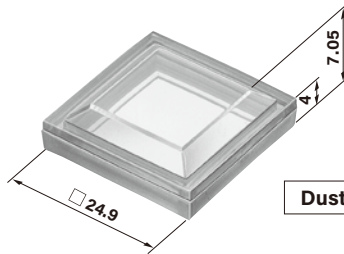
Tolerance : ± 0.4mm

## ACCESSORIES

### Dust-Proof Cover for 14.2 Square Button only

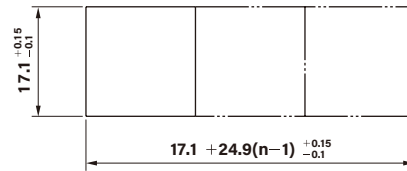
- Provides protection for switches from dust entering through the panel cutout.  
Please indicate parts numbers when order.

#### ● 14.2 Square Button only



**Dust-Proof Cover    DH-361**

#### ● Panel Cut Dimensions

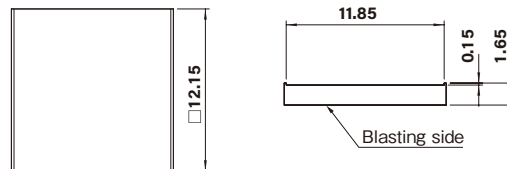


Panel thickness 1mm~2.5mm

n : Number of Switches

\* Dust-proof cover cannot be fitted with barriers or guard cover.

## FILTER DIMENSIONS



Tolerance : ±0.4mm

## REPLACEMENT PARTS

### LED Full Face Display

#### ● One-piece type

Color		Part No.	
		□ 14.2 Square Button	
Solid Color	Red	DH-336-1LR	
	Green	DH-336-1LG	
	Yellow	DH-336-1LY	
Projected Color	Milk White	DH-336-1M	

#### ● Three-piece type

Color		Part No.	
		□ 14.2 Square Button	□ 12.15 Square Filter
Solid Color	Red	DH-336-2C	DH-339-LR
	Green	DH-336-2C	DH-339-LG
	Yellow	DH-336-2C	DH-339-LY
Projected Color	Milk White	DH-336-2C	DH-339-M

### Non-illuminated type

#### ● One-piece type

Color	Part No.	
	□ 14.2 Square Button	φ20.2 Round Button
Red	DH-336-1R	DH-298-R
Green	DH-336-1G	DH-298-G
Yellow	DH-336-1Y	DH-298-Y
Black	DH-336-1K	DH-298-K
Milk White	DH-336-1M	DH-298-M

#### ● Three-piece type

Color		Part No.	
		□ 14.2 Square Button	□ 12.15 Square Filter
Solid Color	Red	DH-336-2C	DH-339-R
	Milk White	DH-336-2C	DH-339-M
	Yellow	DH-336-2C	DH-339-Y
	Green	DH-336-2C	DH-339-G
Projected Color	Red	DH-336-1M	DH-339-R
	Yellow	DH-336-1M	DH-339-Y
	Green	DH-336-1M	DH-339-G

## ORDERING CODE

### LED illuminated Switch



● **Operation**

M	Momentary
A	Alternate

● **Contact Arrangement /Material**

1	Silver, SPDT
2	Silver, DPDT
3	Gold Plated Silver, SPDT
4	Gold Plated Silver, DPDT

● **Button Shape**

S	□14.2 Square
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● **LED Color**

70	Red
80	Green
※ 90	Yellow

● **Terminal Shape**

Blank	#110 Tab/Solder
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● **Filter Color (For Clear Button only)**

Blank	Without Filter
1	Red
※ 3	Yellow
4	Green
5	Milk White

● **Housing Color**

B	Black
W	White

● **Button Color**

R	Red
※ Y	Yellow
G	Green
M	Milk White
C	Clear
X	Without Button

※ "Yellow" color for LED/Button/Filter is actually "Orange Yellow".

### Non-illuminated Switch



● **Operation**

M	Momentary
A	Alternate

● **Contact Arrangement /Material**

1	Silver, SPDT
2	Silver, DPDT
3	Gold Plated Silver, SPDT
4	Gold Plated Silver, DPDT

● **Button Shape**

S	□14.2 Square
R	φ20.2 Round

● **Lamp Terminal**

Blank	Without Lamp Terminal
0	Without Lamp

● **Terminal Shape**

Blank	#110 Tab/Solder
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● **Filter Color (For Clear Button only)**

Blank	Without Filter
1	Red
※ 3	Yellow
4	Green
5	Milk White

※ Round Button should be "Without Filter".

● **Housing Color**

B	Black
W	White

● **Button Color**

R	Red
Y	Yellow
G	Green
K	Black
M	Milk White
※ C	Clear
X	Without Button

※ Clear Button is only for 14.2 Square type.