



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

# PSA TYPE, LPSA TYPE



## FEATURES

- 1** Protective construction of the PSA type is IP65 and the oil-proof which applies to wide variety of applications.  
\* The PSA-U is IP40.
- 2** For the lamps, candescent lamps and LED lamps are standardized.
- 3** A terminal cover (cover for live parts) is provided as a standard accessory.
- 4** Sturdy color chips that maintain beautiful colors are available for buttons.
- 5** Two types of mounting rings (chromium-plating type and black type) are standardized.

## SPECIFICATIONS (RATINGS, PERFORMANCE)

Specification	Type	PSA	LPSA
Rated insulation voltage (UI)		600V	600V (Illuminating part: 250V)
Rated operating voltage (Uth)		—	24V, 110V, 220V AC / DC (Illuminating part)
Rated current-carrying capacity (Ith)		10A (Contact part)	
Withstand voltage		2,200V AC / 1 min.	Contact part: 2,000V AC / 1 min., Illuminating part: 2,500V AC / Full-voltage type: 2,000V AC / 1 min.
Operating temperature		-20 to 55°C	
Storing temperature		-40 to 70°C	
Panel thickness		1 to 6mm	
Shock resistance		Malfunction: 100m/s <sup>2</sup> , Durability: 500m/s <sup>2</sup>	
Terminal connection		Terminal screw M3.5	
Electrical life		1,000,000 operations or more	
Mechanical life	Pushbutton switch: 5,000,000 operations or more	5,000,000 operations or more	
	Selector switch: 1,000,000 operations or more (Contact configuration of 3x3b or more: 250,000 operations)	—	
Temperature rise		40K max.	
Switching frequency		1,800 operations / hour	
Heat resistance		70°C±2°C for 16 hours	

\*1 Rated operating voltage and Rated operating current of contacts.

Voltage	Alternating current		Direct current	
	AC-15th grade (Inductive load)	DC-15th grade (Inductive load)	DC-12th grade (Inductive load)	DC-12th grade (Inductive load)
24V	10	6	6	6
48V	10	2	3	3
110V	6	0.7	2	2
220V	4	0.3	1	1
440V	1.5	-	-	-

## HOW TO ORDER

■ Pushbutton switch **Non-illuminated, momentary operation type**

**PSA - P B 11 C**

① ② ③ ④ ⑤

No.	Item	Code	Detail	Note
①	Basic type	PSA		—
②	Button shape	P	Flat pushbutton	
		C	Convex pushbutton	
		M	Mushroom pushbutton	
		E	Large mushroom pushbutton	
		J	Button with guard ring	—
		N	Mushroom pushbutton with guard ring	
		F	Large mushroom pushbutton with guard ring	
		U	Pull button	
③	Button color	Z	Push-lock turn-reset type	
		B	Black	* For "P", B, R, G button colors are supplied as a set. For "Z", only R and Y button colors are supplied.
		R	Red	
		G	Green	
		Y	Yellow	
		W	Milky white	
O	Orange			
④	Contact arrangement	10	1a	* 10 to 02 are available for "P" only. * a = NO contact, b = NC contact
		01	1b	
		20	2a	
		02	2b	
		11	1a1b	
		22	2a2b	
		33	3a3b	
		44	4a4b	
⑤	Surface ring color	C	Chromium	—
		B	Black	

■ Illuminated pushbutton switch (Full-voltage type, Transformer type) **Candescant lamp, momentary operation type**

**PSA - C R B 11 T110 C**

① ② ③ ④ ⑤ ⑥ ⑦

No.	Item	Code	Detail	Note
①	Basic type	PSA		—
②	Colored transparent convex button (lens)	C		—
③	Button color	R	Red	
		G	Green	
		O	Orange	—
		W	Milky white	
		Y	Yellow	
		C	Clear	
④	BA9S lamp	B		—
⑤	Contact arrangement	11	1a1b	
		22	2a2b	
		33	3a3b	
		44	4a4b	
⑥	Transformer		Primary voltage	Secondary voltage
		O24	Full-voltage	24V
		T110	100 / 110V AC	
	T220	200 / 220V AC		
⑦	Surface ring	C	Chromium	—
		B	Black	

■ Selector switch **Non-illuminated type**

**PSA - H B 11 C A**

① ② ③ ④ ⑤ ⑥

No.	Item	Code	Detail	Note
①	Basic type	PSA		—
②	Knob shape	H	2-notch manual return	
		HL	2-notch automatic return The knob automatically returns from left to right.	
		T	3-notch manual return	
		TS	3-notch automatic return The knob automatically returns from the right or left to the center position.	—
		KH	Key-operated, 2-notch Manual return	
		KT	Key-operated, 3-notch Manual return	
		KTS	Key-operated, 3-notch The knob automatically returns from the right or left to the center position. (Center removal)	
		③	Knob color	B
R	Red			—
G	Green			
④	Contact configuration	11	1a1b	* For details (overlapping contact, etc.), see the contact configuration diagram (on A128).
		22	2a2b	
		33	3a3b	
		44	4a4b	
⑤	Surface ring	C	Chromium	
		B	Black	
⑥	Key removal position (For key-operated switch)	A	A position	* Not applicable to KTS type (center-removal). 2 notches (KH) 3 notches (KT)
		B	B position	
		T	T position	
		BA	BA position	
		BT	BT position	
		AT	AT position	
		BAT	BAT position	

■ Illuminated pushbutton switch (Full-voltage type, Transformer type, Resistor type) **LED lamp, momentary operation type**

**LPSA - C R B 11 110 C**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

No.	Item	Code	Detail	Note
①	Basic type	LPSA		—
②	Colored transparent convex button (lens)	C		—
③	Button color	R	Red	
		G	Green	
		O	Orange	—
		W	Milky white	
		Y	Yellow	
		C	Clear	
④	BA9S lamp	B		—
⑤	Contact arrangement	11	1a1b	
		22	2a2b	
		33	3a3b	
		44	4a4b	
⑥	Form	No code	Full-voltage	
		T	Transformer type	—
		F	Resistor type	
⑦	Voltage		Primary voltage	Secondary voltage
		O24	Full-voltage	24V
		T110	100 / 110V AC	
		T220	200 / 220V AC	
		F110	100 / 110V AC-DC	
		F220	200 / 220V AC-DC	
⑧	Surface ring	C	Chromium	—
		B	Black	



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

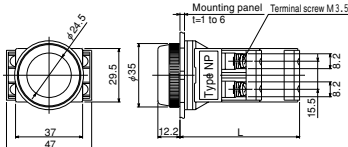
# PSA TYPE, LPSA TYPE

## STANDARD PRODUCTS Pushbutton switch Non-illuminated, momentary operation type

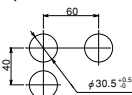
Flat pushbutton

P to F, Z  
NO contact (a-contact): Black  
NC contact (b-contact): Red

### PSA-P



● Mounting hole size (Minimum mounting pitch)

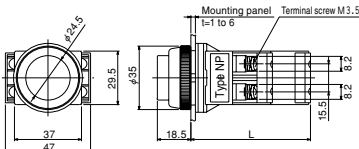


No. of units	1	2	3	4
L (mm)	48	69	90	111

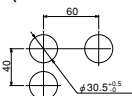
\* The button set (R, G, B) is provided.

Convex pushbutton

### PSA-C



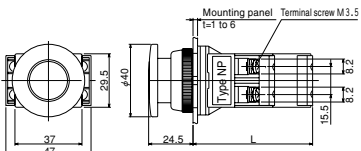
● Mounting hole size (Minimum mounting pitch)



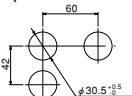
No. of units	1	2	3	4
L (mm)	48	69	90	111

Mushroom pushbutton

### PSA-M



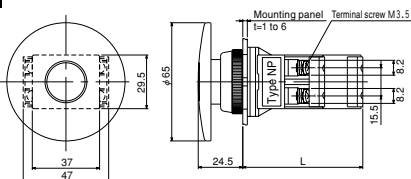
● Mounting hole size (Minimum mounting pitch)



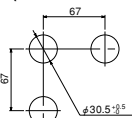
No. of units	1	2	3	4
L (mm)	48	69	90	111

Large mushroom pushbutton

### PSA-E



● Mounting hole size (Minimum mounting pitch)

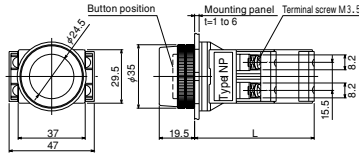


No. of units	1	2	3	4
L (mm)	48	69	90	111

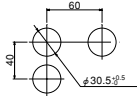
**U**  
 NC contact (b-contact): Black  
 NO contact (a-contact): Red

### Pushbutton with guard ring

## PSA-J



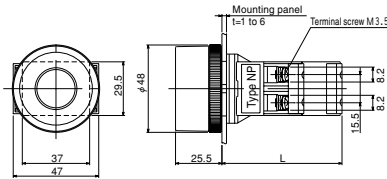
● **Mounting hole size**  
 (Minimum mounting pitch)



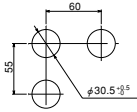
No. of units	1	2	3	4
L (mm)	48	69	90	111

### Mushroom Pushbutton with guard ring

## PSA-N



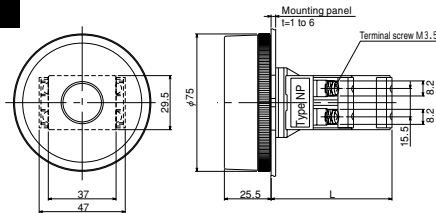
● **Mounting hole size**  
 (Minimum mounting pitch)



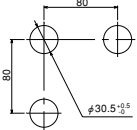
No. of units	1	2	3	4
L (mm)	48	69	90	111

### Large mushroom pushbutton with guard ring

## PSA-F



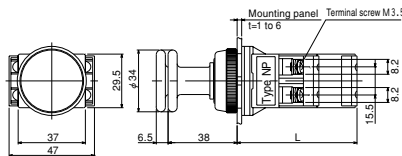
● **Mounting hole size**  
 (Minimum mounting pitch)



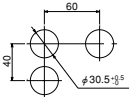
No. of units	1	2	3	4
L (mm)	48	69	90	111

### Pull button

## PSA-U



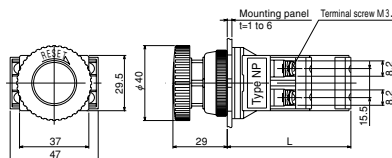
● **Mounting hole size**  
 (Minimum mounting pitch)



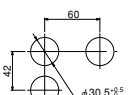
No. of units	1	2	3	4
L (mm)	48	69	90	111

### Push-lock turn-reset pushbutton

## PSA-Z



● **Mounting hole size**  
 (Minimum mounting pitch)



No. of units	1	2	3	4
L (mm)	48	69	90	111



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

# PSA TYPE, LPSA TYPE

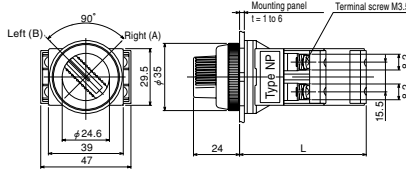
## STANDARD PRODUCTS Selector switch **Non-illuminated type**

Selector switch

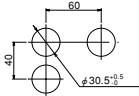
H, HL, TS / KH, KT, KTS

Please see page A138 for selector switch contact arrangement diagram.

### PSA-H,HL,T,TS



● Mounting hole size (Minimum mounting pitch)

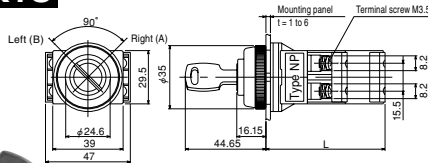
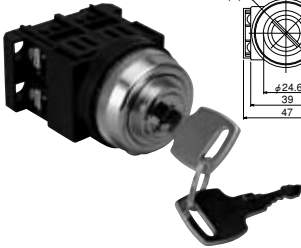


No. of units	1	2	3	4
L (mm)	48	69	90	111

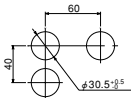
※ See the contact configuration table (on A138).

Key-operated selector switch

### PSA-KH,KT,KTS



● Mounting hole size (Minimum mounting pitch)



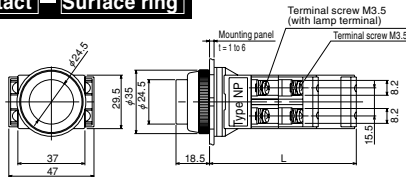
No. of units	1	2	3	4
L (mm)	48	69	90	111

※ See the contact arrangement table (on A138).  
With two No. 701 keys (standard)

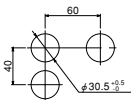
## STANDARD PRODUCTS Illuminated pushbutton switch (Full-voltage, Transformer type) **Candescant lamp, momentary operation type**

Full-voltage type

### PSA-C Color B Contact - Surface ring



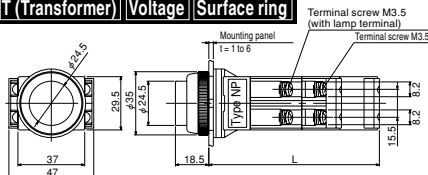
● Mounting hole size (Minimum mounting pitch)



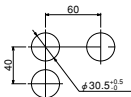
No. of units	1	2	3	4
L (mm)	63	84	105	126

Transformer type

### PSA-C Color B Contact - T (Transformer) Voltage Surface ring



● Mounting hole size (Minimum mounting pitch)

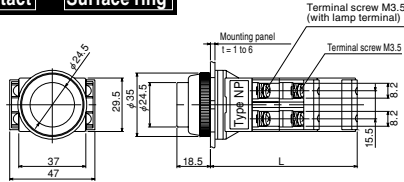


No. of units	1	2	3	4
L (mm)	76.5	97.5	118.5	139.5

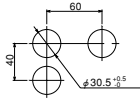
## STANDARD PRODUCTS Illuminated pushbutton switch (Full-voltage, Transformer and Resistance types) LED, momentary operation type

Full-voltage type

**LPSA-C** Color **B** Contact **—** Surface ring



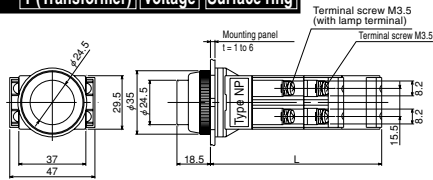
● Mounting hole size (Minimum mounting pitch)



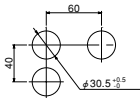
No. of units	1	2	3	4
L (mm)	63	84	105	126

Transformer type

**LPSA-C** Color **B** Contact **—** T (Transformer) Voltage Surface ring



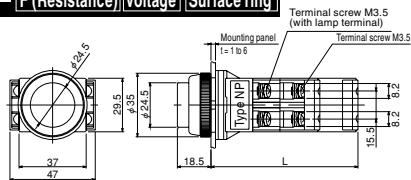
● Mounting hole size (Minimum mounting pitch)



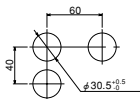
No. of units	1	2	3	4
L (mm)	76.5	97.5	118.5	139.5

Resistor type

**LPSA-C** Color **B** Contact **—** F (Resistance) Voltage Surface ring



● Mounting hole size (Minimum mounting pitch)



No. of units	1	2	3	4
L (mm)	63	84	105	126



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

# PSA TYPE, LPSA TYPE

## ACCESSORIES

### Button

(Order unit: 5)

#### ● PSA-P-BT-Color



Code	Color
B	Black
R	Red
G	Green
O	Orange
Y	Yellow
W	White

#### ● PSA-C-BT-Color



Code	Color
B	Black
R	Red
G	Green
O	Orange
Y	Yellow
W	White

#### ● PSA-M-BT-Color



Code	Color
B	Black
R	Red
G	Green
O	Orange
Y	Yellow
W	White

#### ● PSA-E-BT-Color



Code	Color
B	Black
R	Red
G	Green
O	Orange
Y	Yellow
W	White

#### ● PSA-U-BT-Color



Code	Color
B	Black
BG	Blue green
R	Red

### Lens (Button)

(Order unit: 10)

#### ● PSA-LENS-Color

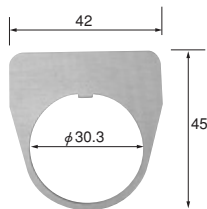


Code	Color
R	Red
G	Green
O	Orange
Y	Yellow
W	Milky white
C	Clear

### Plain nameplate (selling separately)

(Order unit: 10)

#### ● PSA-NP



### Waterproof cap (selling separately)

(Order unit: 5)

#### ● PSA-WCV-Color



Code	Color
B	Black
R	Red
G	Green

### Panel plug (selling separately)

(Order unit: 5)

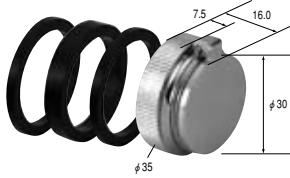
#### ● PSA-CP-Color



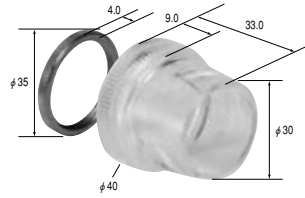
Code	Color
B	Black
N6.5	Gray

## Protective guard (selling separately)

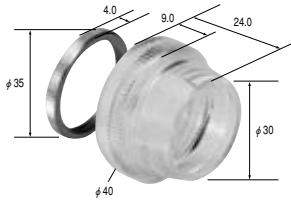
●PSA-OP-1



●PSA-OP-3



●PSA-OP-5



## Guard ring

(Order unit: 5)

●PSA-RG-J-C



Compatible type: PSA-J

●PSA-RG-F-C



Compatible type: PSA-F

●PSA-RG-N-C



Compatible type: PSA-N

## Ring

(Order unit: 5)

●PSA-RG-P-C



●PSA-RG-P-B







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# PSA TYPE, LPSA TYPE

## ACCESSORIES

### LED lamp (Rating: 24V) (Order unit: 10)

●LPSA-LED024-Color



Code	Lens (button) color
R	Red
G	Green
O	Orange
Y	Yellow
	Milky white
	Clear

\* The lamp base is BA9S.

\* The marking on the lamp is LBA9-24.

### Candescant lamp (Rating: 30V) (Order unit: 10)

●PSA-LAMP030



\* The lamp base is BA9S.

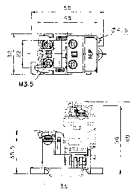
\* The marking on the lamp is 30V / 1W.

### Terminal cover for end unit (Order unit: 10)

●PSA-CV



### Separate transformer (Made by Fuji Electric) (selling separately)



①Transformer      ②Transformer base

The transformer ① and transformer base ② should be separately ordered.

①Transformer

②Transformer base

Type	Rated primary voltage	Rated secondary voltage
AR9T559-H	100 / 110V	24V
AR9T559-M	200 / 220V	
AR9T559-T	400 / 440V	

Type
AR9T003

### Ring tightening tool (selling separately)

●PSA-JQ

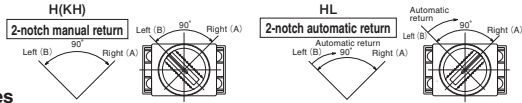


### Lamp replacement tool (selling separately)

●PSA-LN



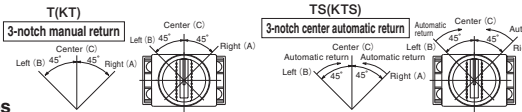
## ■ Selector switch contact arrangement diagram



H(KH)  
The contact that makes at B position is b contact : red  
The contact that makes at A position is a contact : black  
HL  
The contact that makes at B position is a contact : black  
The contact that makes at A position is b contact : red

### ● 2 notches

Code	11	22	33	44	0011	0022	0033	0044
Contact arrangement	B (→) A	B (→) A	B (→) A	B (→) A	B (→) A	B (→) A	B (→) A	B (→) A



T(KT)  
The contact that makes at B position is a contact : ①  
The contact that makes at A position is a contact : ②  
TS(KTS)  
The contact that makes at B position is a contact : ①  
The contact that makes at A position is a contact : ②

### ● 3 notches

Code	11	22	33	44	2211	2222	3311
Contact arrangement	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A

Code	0011	0022	0033	0044	1111	1122	1133
Contact arrangement	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A

## ■ LPSA Type Circuit Diagram (LED)

