



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

PSA, LPSA TYPE



FEATURES

- 1** The PSA and SPSA types are oil-proof. The enclosure rating is IP65 (water-jet-proof type), covering wide applications.
* The PSA-U type provides an enclosure rating of IP40.
- 2** Candescant lamps and LED lamps are available for standard models.
- 3** A terminal cover (cover for live parts) is provided as a standard equipment.
- 4** Sturdy color chips that maintain beautiful colors are available for buttons.
- 5** Two types of mounting rings (chromium-plated type, and Munsell N1.5 (black) type) are available for standard models.

SPECIFICATIONS (RATINGS, PERFORMANCE)

Specifications	Type	PSA	LPSA
Rated insulation voltage (UI)		600V AC / DC	600V AC / DC (Illuminating part: 250 V)
Rated operating voltage (Ith)		—	24 V, 110 V, 220 V AC / DC (Illuminating part)
Rated current-carrying capacity		10 A (Contact part)	
Withstand voltage		2200 V AC for one minute	Contact part: 2200 V AC for one minute, Illuminating part: 2500 V AC (Full-voltage type: 2000 V AC) for one minute
Operating temperature		-20°C to 55°C	
Storing temperature		-40°C to 70°C	
Panel thickness		1 to 6mm	
Shock resistance		Malfunction: 100 m/s ² , Durability: 500 m/s ²	
Terminal type		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 3&3b or more: 250,000 operations)	—
Temperature rise		40 K max.	
Switching frequency		1,800 operations/hour	
Heat resistance		70°C ±2°C for 16 hours	

PRODUCT CODING

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

PSA-P B 11 C

Basic type

Button shape

Code	Shape	Code	Shape
P	Flat pushbutton	N	Mushroom pushbutton with guard ring
C	Convex pushbutton	F	Large mushroom pushbutton with guard ring
M	Mushroom pushbutton	U	Pull button
E	Large mushroom pushbutton	Z	Push-lock turn-reset type
J	Button with guard ring		

Button color

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

Contact arrangement

Code	Contact arrangement
10	1a
01	1b
20	2a
02	2b
11	1a1b
22	2a2b
33	3a3b
44	4a4b

Surface ring

Code	Color
C	Chromium
B	N1.5

* For "P", the B, R and G buttons color are supplied as a set. For "Z", only the R and Y buttons color are supplied.

* 10 to 02 types are applicable only for P type.

■ Selector switch **Non-illuminated type**

PSA-H B 11 C A

Basic type

Knob shape

Code	Description	Code	Description
H	2-notch manual return The knob automatically returns from right.	KH	Key-operated, 2-notch manual return (Left removal)
HL	2-notch automatic return The knob automatically returns from left.	KT	Key-operated, 3-notch manual return (Center removal)
T	3-notch manual return	KTS	Key-operated, 3-notch right / left automatic return (Center removal)
TS	3-notch automatic return The knob automatically returns from the right or left to the center position.		

Knob color

Code	Color
B	Black
R	Red
G	Green

Contact arrangement

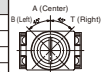
Code	Contact arrangement
11	1a1b
22	2a2b
33	3a3b
44	4a4b

Surface ring

Code	Color
C	Chromium
B	N1.5

Key removal position (for key-operated switch)

Code	Key all position
A	A
T	T
B	B
BA	B and A
BT	B and T
AT	A and T
BAT	B and A and T



* For details (overlap contact, etc.), refer to contact configuration table (on p. 300).

* Not applicable to the KTS type (center-removal).

■ Illuminated pushbutton switch (No transformer, transformer type) **Candescant lamp, momentary operation type**

PSA-C R B 11 - T110 C

Basic type

BA9S lamp

Colored transparent convex button (lens)

Button color

Code	Color	Code	Color
R	Red	W	Milk white
G	Green	Y	Yellow
O	Orange	C	Transparent

Contact arrangement

Code	Contact arrangement
11	1a1b
22	2a2b
33	3a3b
44	4a4b

Transformer

Code	Primary voltage	Secondary voltage
024	24V *	24V
T110	100 / 110V	24V
T220	200 / 220V	24V

* The 024 type has no transformer.

Surface ring

Code	Color
C	Chromium
B	N1.5

■ Illuminated pushbutton switch (Transformer type) **LED, momentary operation type**

LPSA-C R B 11 - T110 C

Basic type

BA9S lamp

Colored transparent convex button (lens)

Button color

Code	Color	Code	Color
R	Red	W	Milk white
G	Green	Y	Yellow
O	Orange	C	Transparent

Contact arrangement

Code	Contact arrangement
11	1a1b
22	2a2b
33	3a3b
44	4a4b

Transformer

Code	Primary voltage	Secondary voltage
024	24V *	24V
T110	100 / 110V	24V
T220	200 / 220V	24V

* The 024 type has no transformer.

Surface ring

Code	Color
C	Chromium
B	N1.5

■ Illuminated pushbutton switch (Resistance type) **LED, momentary operation type**

LPSA-C R B 11 - F110 C

Basic type

BA9S lamp

Colored transparent convex button (lens)

Built-in resistor

Button color

Code	Color	Code	Color
R	Red	W	Milk white
G	Green	Y	Yellow
O	Orange	C	Transparent

Contact arrangement

Code	Contact arrangement
11	1a1b
22	2a2b
33	3a3b
44	4a4b

Voltage

Code	Primary voltage	Secondary voltage
110	100 / 110V	24V
220	200 / 220V	24V

Surface ring

Code	Color
C	Chromium
B	N1.5



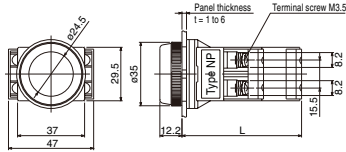
PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

PSA, LPSA TYPE

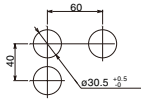
STANDARD PRODUCTS Pushbutton switch Non-illuminated, momentary operation type

Flat pushbutton

PSA-P



● Mounting hole size (Minimum mounting pitch)

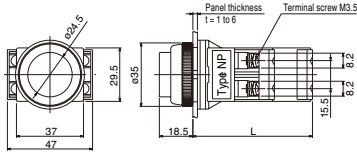


No. of units	1	2	3	4
L (mm)	48	69	90	111

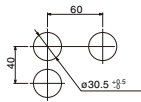
* The button set (R, G, B) is provided.

Convex pushbutton

PSA-C



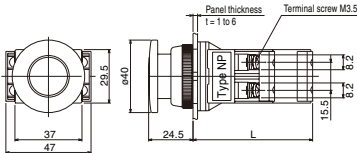
● Mounting hole size (Minimum mounting pitch)



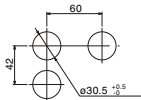
No. of units	1	2	3	4
L (mm)	48	69	90	111

Mushroom pushbutton

PSA-M



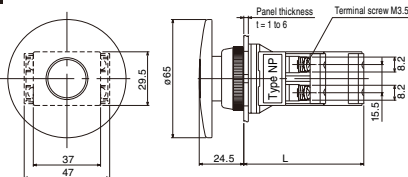
● Mounting hole size (Minimum mounting pitch)



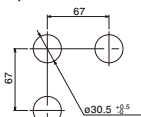
No. of units	1	2	3	4
L (mm)	48	69	90	111

Large mushroom pushbutton

PSA-E



● Mounting hole size (Minimum mounting pitch)

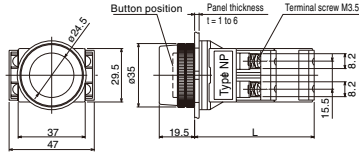


No. of units	1	2	3	4
L (mm)	48	69	90	111

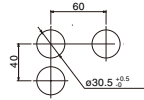
STANDARD PRODUCTS

Pushbutton with guard ring

PSA-J



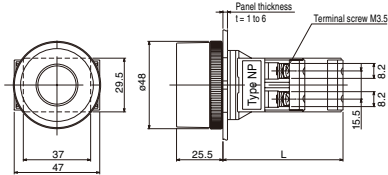
● Mounting hole size (Minimum mounting pitch)



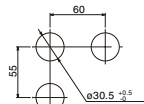
No. of units	1	2	3	4
L (mm)	48	69	90	111

Mushroom pushbutton with guard ring

PSA-N



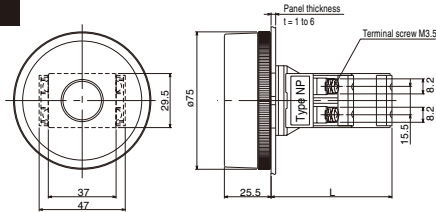
● Mounting hole size (Minimum mounting pitch)



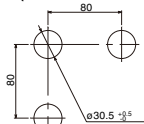
No. of units	1	2	3	4
L (mm)	48	69	90	111

Large mushroom pushbutton with guard ring

PSA-F



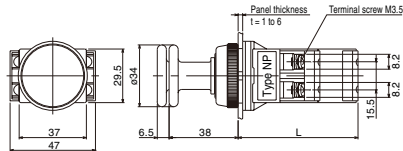
● Mounting hole size (Minimum mounting pitch)



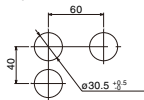
No. of units	1	2	3	4
L (mm)	48	69	90	111

Pull button

PSA-U



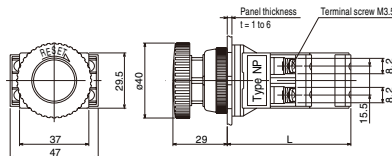
● Mounting hole size (Minimum mounting pitch)



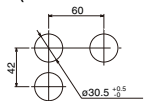
No. of units	1	2	3	4
L (mm)	48	69	90	111

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



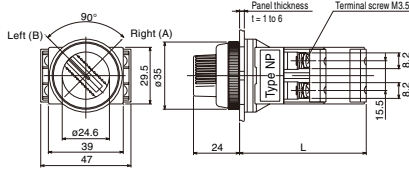
PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

PSA, LPSA TYPE

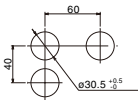
STANDARD PRODUCTS Selector switch **Non-illuminated type**

Selector switch

PSA-H,HL,T,TS



● Mounting hole size (Minimum mounting pitch)

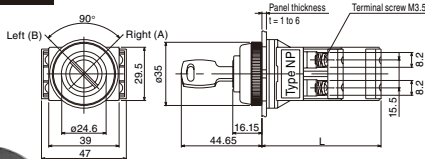
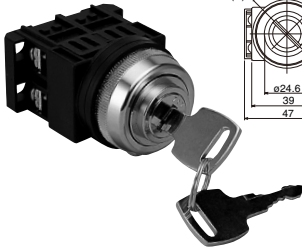


No. of units	1	2	3	4
L (mm)	48	69	90	111

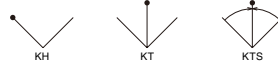
* See the contact configuration table (on p. 294).

Key-operated selector switch

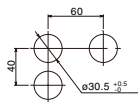
PSA-KH,KT,KTS



Key off position



● Mounting hole size (Minimum mounting pitch)



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

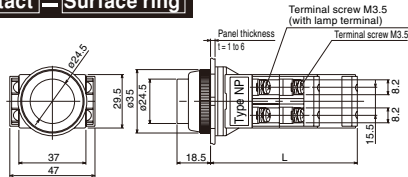
* See the contact arrangement table (on p. 294).
With two No. 701 keys (standard)

STANDARD PRODUCTS Illuminated pushbutton switch (Full-voltage, transformer type)

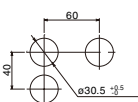
No transformer type

Candescant lamp, momentary operation type

PSA-C Color B Contact — Surface ring



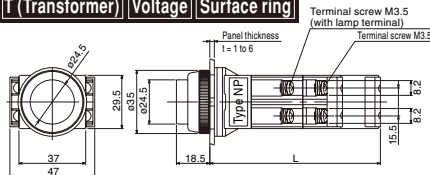
● Mounting hole size (Minimum mounting pitch)



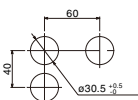
No. of units	1	2	3	4
L (mm)	63	84	105	126

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

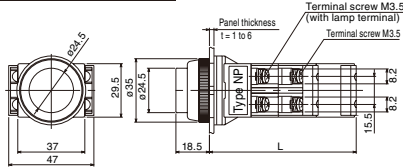
STANDARD PRODUCTS

Illuminated pushbutton switch (No transformer, transformer and resistance types)

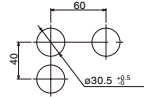
No transformer type (24V)

LED, momentary operation type

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



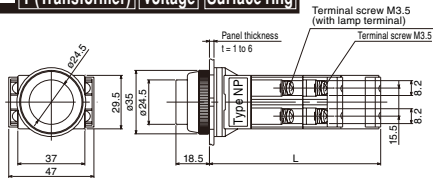
● Mounting hole size (Minimum mounting pitch)



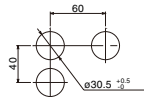
No. of units	1	2	3	4
L (mm)	63	84	105	126

Transformer type

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



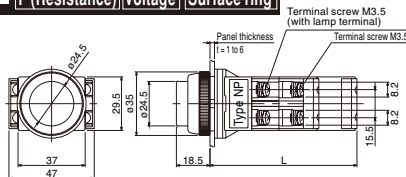
● Mounting hole size (Minimum mounting pitch)



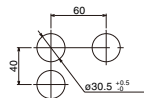
No. of units	1	2	3	4
L (mm)	76.5	97.5	118.5	139.5

Resistance 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, 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	Milk white
C	Clear

Blank nameplate

(Order unit: 10)

● PSA-NP



Waterproof cap

(Order unit: 5)

● PSA-WCV-Color



Code	Color
B	Black
R	Red
G	Green

Panel plug

(Order unit: 5)

● PSA-CP-Color



Code	Color
B	Black
N6.5	Gray

Compatible type: PSA-C

ACCESSORIES

Protective guard

●PSA-OP-1



●PSA-OP-2



●PSA-OP-3



●PSA-OP-5



Guard ring

(Order unit: 5)

●PSA-RG-J-C



Applicable type: PSA-J

●PSA-RG-F-C



Applicable type: PSA-F

●PSA-RG-N-C



Applicable type: PSA-N

Ring

(Order unit: 5)

●PSA-RG-P-C



●PSA-RG-P-B (Plastic)





PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

PSA, LPSA TYPE

ACCESSORIES

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

- LPSA-LED024-Color



Code	Lens (button) color
R	Red
G	Green
O	Orange
Y	Yellow
	Milk white Transparent

* The lamp base is BA9S.

* The marking on the lamp is LBA9-24.

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

- PSA-LAMP030



* The lamp base is BA9S.

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

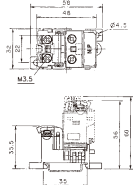
Terminal cover for end unit (Order unit: 10)

- PSA-CV



* The terminal cover is standard equipment.

Separate transformer



(1) Transformer (2) Transformer base

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

(1) Transformer

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

(2) Transformer base

Type
AR9T003

Ring tightening tool

- PSA-JQ

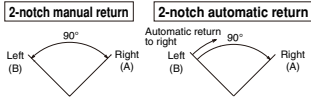


Lamp replacement tool

- PSA-LN

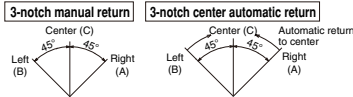


■ Selector switch contact arrangement table



● 2 notches

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



● 3 notches

Code	11	22	33	44	2211	2222	3311
Contact arrangement (→) (←) indicates automatic return.	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 (→) (←) indicates automatic return.	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 Type)

