



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

HSA TYPE, LHSA TYPE



FEATURES

1

Protective construction of the HSA type is IP65 and the oil-proof, which applies to wide variety of applications.

* PSA-V type is IP40

3

The button is sturdy and provides a color chip that maintains beautiful color.

2

Terminal covers (covers for live parts) are provided as standard accessory.

4

Two types of mounting rings (chromium-plating type and black type) are standardized.

SPECIFICATIONS (RATINGS, PERFORMANCE)

Type	HSA	LHSA
Rated insulation voltage (Ui)	AC - DC600V	AC - DC600V (Illumination part 250V)
Rated operating voltage	See *1	See *1 and *2
Rated current-carrying capacity (Ith)	10A (Contact)	
Withstand voltage	2,200V AC / 1 min.	Contact: 2,200V AC / 1 min. Illuminating part: 2,500V AC (Full-voltage type: 2,000V AC) / 1 min.
Operating temperature	-20°C to 55°C (Indoor)	-25°C to 40°C (Outdoor)
Storing temperature	-25°C to 55°C (70°C within 24 hours)	
Panel thickness	1 to 6mm	
Shock resistance	Malfunction: 100m/s ² , Durability: 500m/s ²	
Terminal connection	Terminal screw M3.5	
Electrical life	1,000,000 operations	
Mechanical life	Pushbutton switch: 5,000,000 operations	5,000,000 operations
	Selector switch: 1,000,000 operations (3a2b or more contacts: 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	AC	DC	
	AC-15 class (Inductive load)	DC-13 class (Inductive load)	DC-12 class (Resistance load)
24V	10	6	6
48V	10	2	3
110V	6	0.7	2
220V	4	0.3	1
440V	1.5	-	-

*2 Rated operating voltage of illuminating part

Code	Primary voltage	Secondary voltage
024	24V AC-DC	24V AC / DC
T110	100 / 110V AC	24V AC
T220	200 / 220V AC	24V AC
F110	100 / 110V AC-DC	24V AC / DC
F220	200 / 220V AC-DC	24V AC / DC

Spacer for mounting
Recommended pieces of spacer
(including name plate thickness)

Panel thickness (mm)	Pieces of spacer	
	Spacer thickness 1.5mm	Spacer thickness 3mm
1.0 - 2.3	2	1
2.3 - 4.0	1	1
4.0 - 5.5	0	1
5.5 - 6.0	1	0

HOW TO ORDER

■ Pushbutton switch Non-illuminated, momentary operation type

HSA - P Y 11 C

No.	Item	Code	Detail	Note
①	Basic type	HSA		—
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	
		□ (Blank)	Black / Red / Green	*1
		B	Black	* For "U", only R, B and BG button colors are supplied. For "Z", only R and Y button colors are supplied.
		R	Red	
		G	Green	
		Y	Yellow	
		W	Milky white	
		O	Orange	
④	Contact arrangement	BG	Blue green	
		11	1a1b	
		22	2a2b	
		33	3a3b	
⑤	Surface ring color	44	4a4b	
		C	Chromium	* For "U"/"N"/"F" button shape, only C surface ring color can use.
		B	Black	

*1 For "P", B, R, G button colors are supplied as a set.
□ : only P button shape

■ Selector switch Non-illuminated type

HSA - H B 11 C

No.	Item	Code	Detail	Note
①	Basic type	HSA		—
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	Black	
		R	Red	—
		G	Green	
④	Contact configuration	11	1a1b	* For details (overlapping contact, etc.), see the contact configuration diagram (on page A116).
		22	2a2b	
		33	3a3b	
⑤	Surface ring	44	4a4b	
		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)
		-B	B position	
		-T	T position	3 notches (KT)
		-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

LHSA - D R W 11-□ 110 C

No.	Item	Code	Detail	Note
①	Basic type	LHSA		—
②	Colored transparent convex button (lens)	D		—
③	Button color	R	Red	
		G	Green	
		O	Orange	
		W	Milky white	—
		Y	Yellow	
		C	Clear	
④	BA9S lamp	W		—
⑤	Contact arrangement	11	1a1b	
		22	2a2b	
		33	3a3b	
		44	4a4b	
⑥	Type/Voltage	Primary voltage Secondary voltage		
	Full voltage type	O24	Full-voltage	* Not applicable to KTS type (center-removal).
	Transformer type (T)	T110	AC100/110V	
		T220	AC200/220V	
	Resistor type (F)	F110	AC-DC100/110V	
		F220	AC-DC200/220V	
⑦	Surface ring	C	Chromium	
		B	Black	—
		G	Punched guard	



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

HSA TYPE, LHSA TYPE

STANDARD PRODUCTS

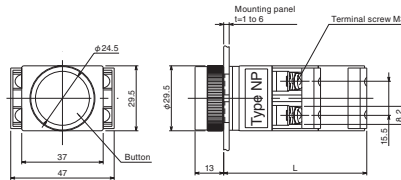
Pushbutton switch Non-illuminated, momentary operation type

P to F, Z

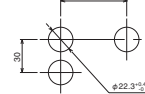
NO contact (a-contact): Black
NC contact (b-contact): Red

Flat pushbutton

HSA-P



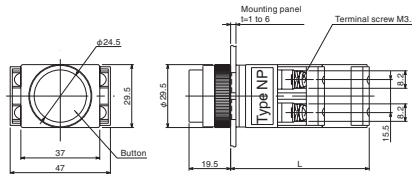
● Mounting hole size (Minimum mounting pitch)



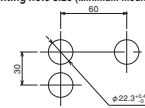
No. of units	1	2	3	4
L(mm)	44	65	86	107

Convex pushbutton

HSA-C



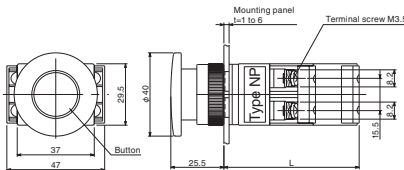
● Mounting hole size (Minimum mounting pitch)



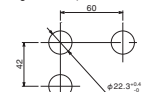
No. of units	1	2	3	4
L(mm)	44	65	86	107

Mushroom pushbutton

HSA-M



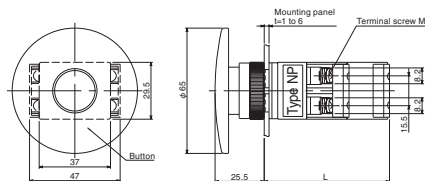
● Mounting hole size (Minimum mounting pitch)



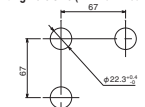
No. of units	1	2	3	4
L(mm)	44	65	86	107

Large mushroom pushbutton

HSA-E



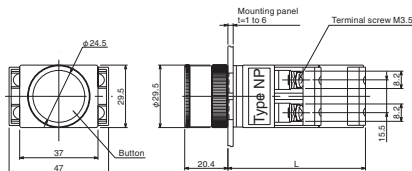
● Mounting hole size (Minimum mounting pitch)



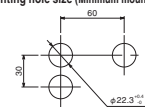
No. of units	1	2	3	4
L(mm)	44	65	86	107

Button with guard ring

HSA-J



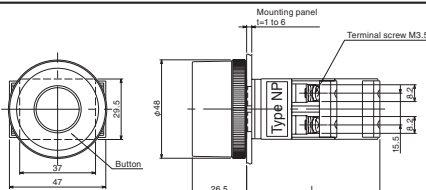
● Mounting hole size (Minimum mounting pitch)



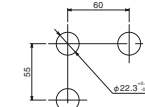
No. of units	1	2	3	4
L(mm)	44	65	86	107

Mushroom pushbutton with guard ring

HSA-N



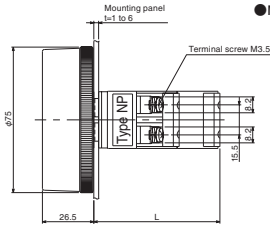
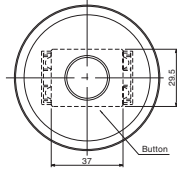
● Mounting hole size



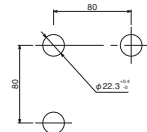
No. of units	1	2	3	4
L(mm)	44	65	86	107

Large mushroom pushbutton with guard ring

HSA-F



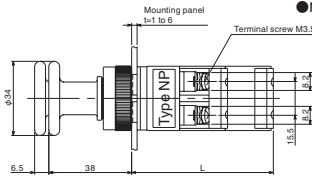
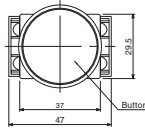
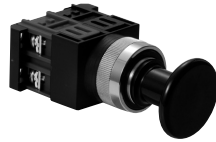
● Mounting hole size (Minimum mounting pitch)



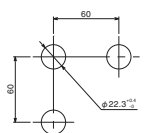
No. of units	1	2	3	4
L(mm)	44	65	86	107

Pull button

HSA-U



● Mounting hole size (Minimum mounting pitch)

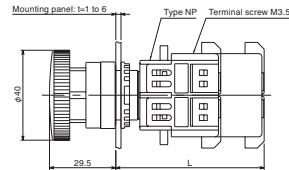
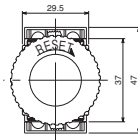


No. of units	1	2	3	4
L(mm)	44	65	86	107

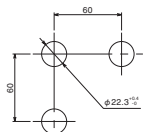
NC contact (b-contact): Black (Turns off when pulled)
NO contact (a-contact): Red (Turns on when pulled)

Push-lock turn-reset type

HSA-Z



● Mounting hole size (Minimum mounting pitch)

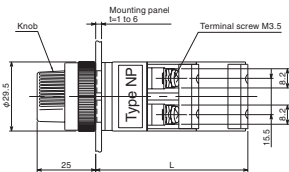
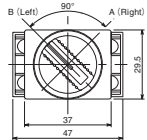


No. of units	1	2	3	4
L(mm)	47	68	89	110

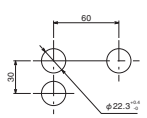
* Terminal wiring: Upper and lower terminals only

Selector switch

HSA-H,HL,T,TS



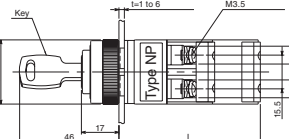
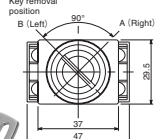
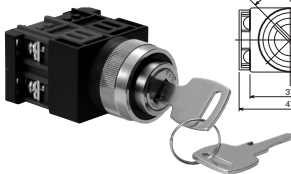
● Mounting hole size (Minimum mounting pitch)



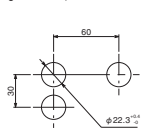
No. of units	1	2	3	4
L(mm)	44	65	86	107

Key-operated selector switch

HSA-KH,KT,KTS



● Mounting hole size (Minimum mounting pitch)



No. of units	1	2	3	4
L(mm)	44	65	86	107



STANDARD PRODUCTS

Full-voltage type (LED)

LHSA-P **Color** **W** **Contact** **-024-** **Surface ring**



No. of units	1	2	3	4
L(mm)	59	80	101	122

Transformer type (LED)

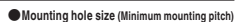
LHSA-D ☐ Color **W** ☐ Contact ☐ - ☐ Transformer ☐ Voltage ☐ Surface ring



No. of units	1	2	3	4
L(mm)	72.5	93.5	114.5	135.5

Resistor type (LED)

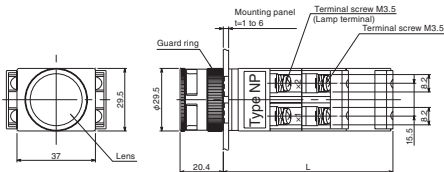
LHSA-P	Color	W	Contact	—	Resistance	Voltage	Surface ring
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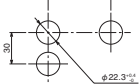
No. of units	Type	Power supply voltage	1	2	3	4
L(mm)	F110	100 / 110V	59	80	101	122
	F220	200 / 220V	72.5	93.5	114.5	135.5

Full-voltage type with punched guard ring (LED)

LHSA-D Color **W** Contact - **024-G**



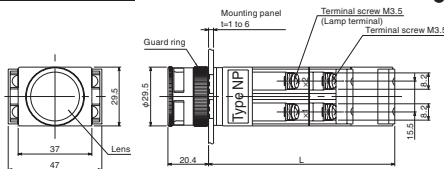
● Mounting hole size (Minimum mounting pitch)



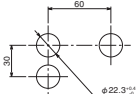
No. of units	1	2	3	4
L(mm)	59	80	101	122

Transformer type with punched guard ring (LED)

LHSA-D Color **W** Contact - Transformer Voltage **G**



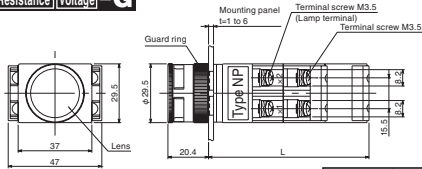
● Mounting hole size (Minimum mounting pitch)



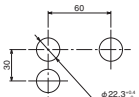
No. of units	1	2	3	4
L(mm)	72.5	93.5	114.5	135.5

Resistor type with punched guard ring (LED)

LHSA-D Color **W** Contact - Resistance Voltage **G**



● Mounting hole size (Minimum mounting pitch)



No. of units	Type	Power supply voltage	1	2	3	4
L(mm)	F110	100 / 110V	59	80	101	122
	F220	200 / 220V	72.5	93.5	114.5	135.5



PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

HSA TYPE, LHSA TYPE

ACCESSORIES

Button

(Order unit: 5)

●PSA-P-BT-B (Flat pushbutton)



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

●PSA-C-BT-B (Convex pushbutton)



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

●PSA-M-BT-B (Mushroom pushbutton)



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

●PSA-E-BT-B (Large mushroom pushbutton)



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

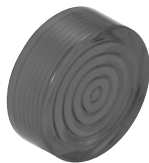
●PSA-U-BT-B (Pull button)



Code	Color
B	Black
BG	Blue-green
R	Red

Lens (Button) for illuminated type (Order unit: 10)

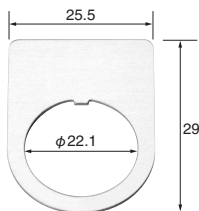
●PSA-LENS-Color



Code	Color
RD	Red
GD	Green
OD	Orange
Y	Yellow
W	Milky white
C	Clear

Plain nameplate (selling separately) (Order unit: 10)

●HSA-NP



Protective guard (selling separately)

(Order unit: 5)

● HSA-OP-2



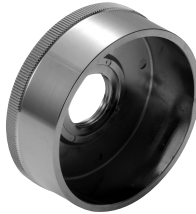
Guard ring

(Order unit: 5)

● HSA-RG-J-C

● HSA-RG-F-C (For large mushroom pushbutton)

● HSA-RG-N-C (For mushroom pushbutton)



Ring

(Order unit: 5)

● HSA-RG-P-C

● HSA-RG-P-B

● HSA-RG-P-G





PUSHBUTTON SWITCH / SELECTOR SWITCH / ILLUMINATED PUSHBUTTON SWITCH

HSA TYPE, LHSA TYPE

ACCESSORIES

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

●LPSA-LED024-WW



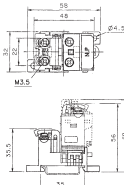
Code	Lens (button) color
WW	Red, Green, Orange, Yellow, Milky white, Clear

* All colors shared.

* The marking on the lamp is LBA9-24.

* The socket is BA9S.

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



① Transformer

② Transformer base

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

① Transformer

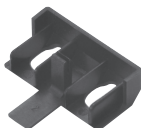
② Transformer base

Type	Rated primary voltage	Rated secondary voltage	Type
AR9T559-H	100 / 110V	24V	AR9T003
AR9T559-M	200 / 220V		
AR9T559-T	400 / 440V		

Terminal cover

(Order unit: 10)

●PSA-CV



* The terminal cover is provided as a standard accessory.

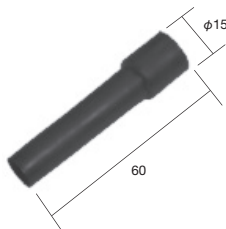
Ring tightening tool (selling separately)

●PSA-JQ



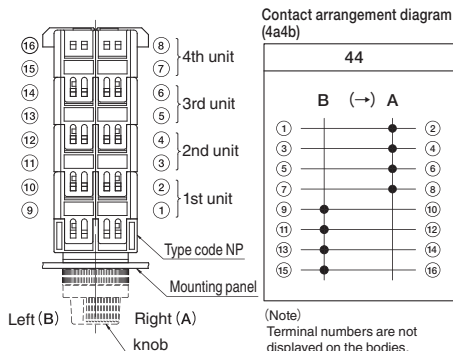
Lamp replacement tool (selling separately)

●PSA-LN

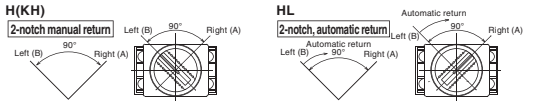


HOW TO SEE CONTACT ARRANGEMENT DIAGRAM

Relation for contact arrangement (page A116) and terminal arrangement is shown as the following diagram.



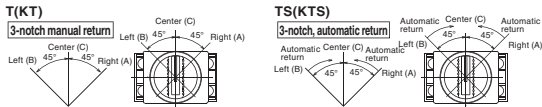
Selector switch contact arrangement diagram



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-notch

Code	11	22	33	44	0011	0022	0033	0044
Contact arrangement (→) means direction of automatic return.	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-notch

Code	11	22	33	44
Contact arrangement (→) (←) means direction of automatic return.	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A
Code	0011	0022	0033	0044
Contact arrangement (→) (←) means direction of automatic return.	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A	B (→) C (←) A

LHSA type circuit diagram (LED)

