

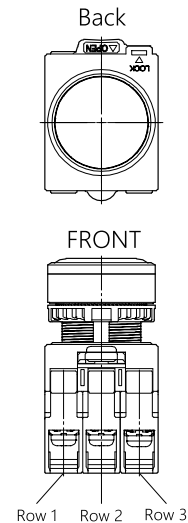
CONTROL COMPONENT

NS22 Series

Classification

NS22- □ □ - □ □ □ □ □ □

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ex) Non-Illuminate red Push Button
 Row 1: 1 NO contact block
 Row 2: 1 NO contact block
 Row 3: 1 NC contact block
 → NS22-PM-R1A1A1B
 When there is no contact block in Row 2
 → NS22-PM-R1NO 1NC

- The key selector does not have a illuminated type.
- Double Buttons do not have a alternate type.
- Please inquire separately for Double Button with Plating-guard is order made
- Double Button illuminate type is basic red, other colors available upon separate order.

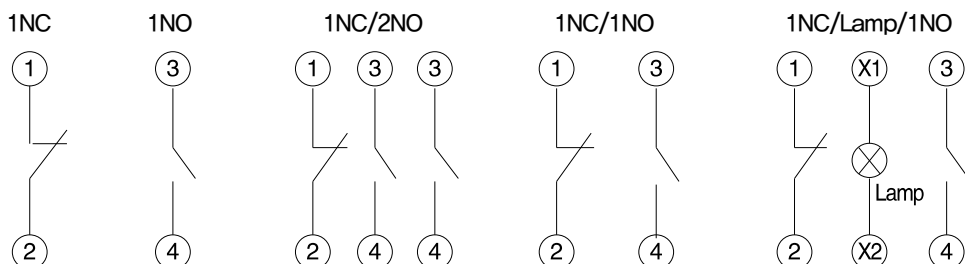
※ Button color caps may vary in color depending on the lot.

Specifications

Model	Pilot Lamp	Push Button	Selector	Key Selector	Double Button	Mushroom Head Push Button
Category	NS22-L	NS22-PM NS22-PA NS22-BM NS22-BA	NS22-S2 NS22-S3 NS22-SA2 NS22-SA3 NS22-S3R NS22-SL2 NS22-SL3 NS22-SLA2 NS22-SLA3 NS22-SL3R	NS22-K2 NS22-K3 NS22-KA2 NS22-KA3 NS22-K3R	NS22-DM	NS22-PEM NS22-PER NS22-PEM6 NS22-BER
Contact Rating	AC15:125V 6A, 250V 3A / DC13:250V 0.27A					
Insulation Resistance	100M Ω (DC500V Insulation Resistance Meter)					
Withstand Voltage	2,500Vac (1 minute at 50Hz/60Hz)					
Contact Resistance	30m Ω max. (initial value)					
Electrical Life	500,000 cycles min. (Maximum switching frequency: 30 cycles/min) (250VAC 2A, inductive load, $\cos \theta = 0.4$)					
Mechanical life	- Mushroom Head Push Button, momentary: 1,000,000 cycles min. - Alternate Push Button: 1,000,000 cycles min. - Selector: 1,000,000 cycles min. (500,000 cycles min. for illuminated type) - Key selector: 500,000 cycles min. - Double Button: 1,000,000 cycles min. - Mushroom Head Push to Lock, Turn to Release: 500,000 cycles min.					
Internal Vibration	10~55Hz, Double amplitude 1.5mm in X, Y, Z directions for 1 hour					
Shock resistance	Durability: 50G min., Malfunction: 10G min. (Durability and malfunction are applied separately)					
Ingress Protection	IP66 (Double Button: IP40, With boot seal: IP66)					
Operating Ambient Temperature	-25°C to +70°C (When using LED bulbs, without freezing) -25°C to +55°C (When using filament bulbs, without freezing)					
Storage Ambient Temperature	-40°C to +70°C (without freezing)					
Operating Ambient Humidity	45~85% RH					
Rated Insulation Voltage	600V					
Rated Impulse Withstand Voltage	6KV					
Encapsulation Thermal Current (Ith)	10A					
Certifications	KC: KC 61058-1 UL/CUL: UL508 (CSA C22.2 No. 14-13) CE: EN 60947-1 / EN 60947-5-1 CCC: GB/T 14048.5					

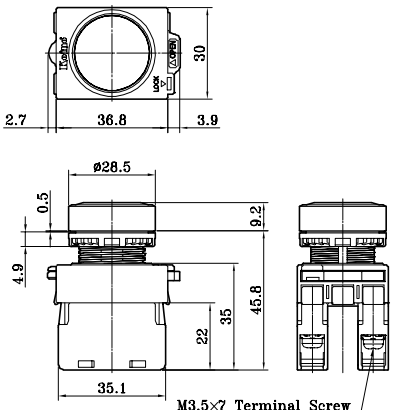
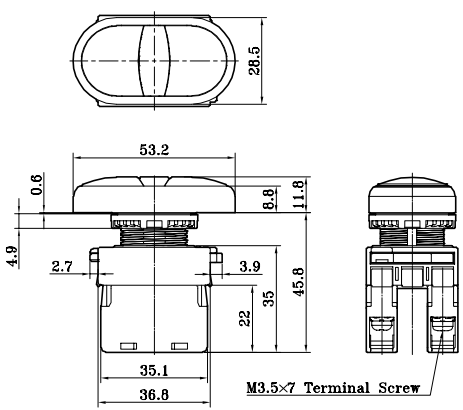
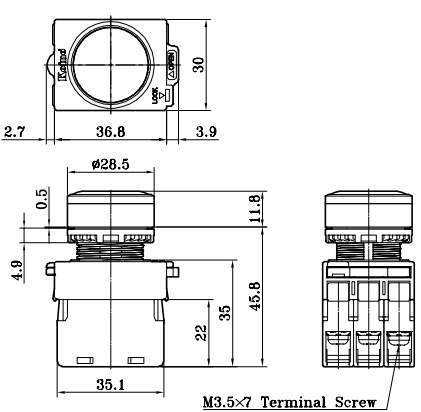
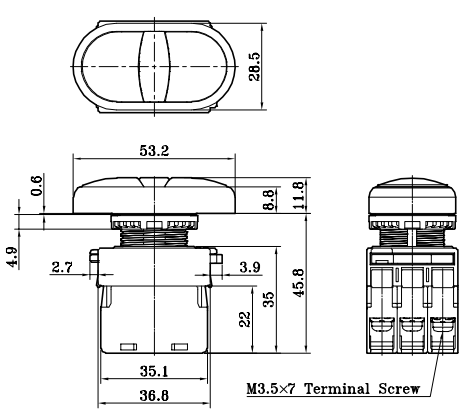
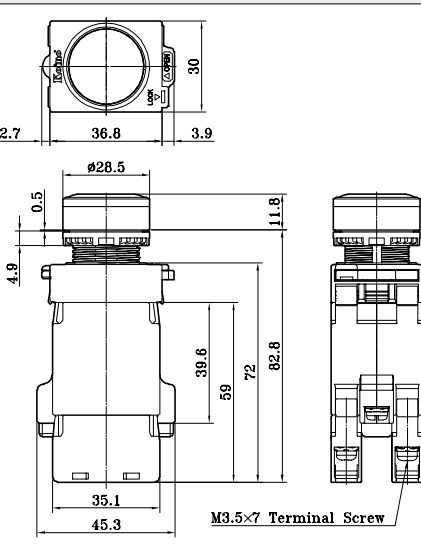
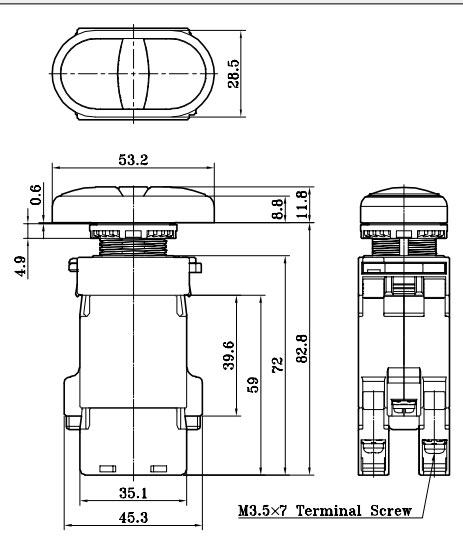
※ Ambient Temperature Rating: 40°C RoHS Certified: Excluding filament bulbs and transformer types

Terminal Connection Diagram



CONTROL COMPONENT

Dimensions

NS22-P Push Button	NS22-DM Double Button
 Technical drawing of the NS22-P Push Button. The front view shows a circular button with a diameter of 36.8 mm and a height of 30 mm. The side view shows a total height of 45.8 mm, with a base of 35.1 mm and a mounting hole diameter of 28.5 mm. The terminal view shows two terminals with an M3.5x7 Terminal Screw.	 Technical drawing of the NS22-DM Double Button. The front view shows an oval button with a width of 53.2 mm and a height of 28.5 mm. The side view shows a total height of 45.8 mm, with a base of 35.1 mm and a mounting hole diameter of 28.5 mm. The terminal view shows two terminals with an M3.5x7 Terminal Screw.
NS22-B Illuminated Push Button (Full voltage)	NS22-DM Illuminated Double Button (Full voltage)
 Technical drawing of the NS22-B Illuminated Push Button (Full voltage). The front view shows a circular button with a diameter of 36.8 mm and a height of 30 mm. The side view shows a total height of 45.8 mm, with a base of 35.1 mm and a mounting hole diameter of 28.5 mm. The terminal view shows two terminals with an M3.5x7 Terminal Screw.	 Technical drawing of the NS22-DM Illuminated Double Button (Full voltage). The front view shows an oval button with a width of 53.2 mm and a height of 28.5 mm. The side view shows a total height of 45.8 mm, with a base of 35.1 mm and a mounting hole diameter of 28.5 mm. The terminal view shows two terminals with an M3.5x7 Terminal Screw.
NS22-B Illuminated Push Button (Transformer)	NS22-DM Illuminated Double Button (Transformer)
 Technical drawing of the NS22-B Illuminated Push Button (Transformer). The front view shows a circular button with a diameter of 36.8 mm and a height of 30 mm. The side view shows a total height of 82.8 mm, with a base of 35.1 mm and a mounting hole diameter of 28.5 mm. The terminal view shows two terminals with an M3.5x7 Terminal Screw.	 Technical drawing of the NS22-DM Illuminated Double Button (Transformer). The front view shows an oval button with a width of 53.2 mm and a height of 28.5 mm. The side view shows a total height of 82.8 mm, with a base of 35.1 mm and a mounting hole diameter of 28.5 mm. The terminal view shows two terminals with an M3.5x7 Terminal Screw.

Dimensions

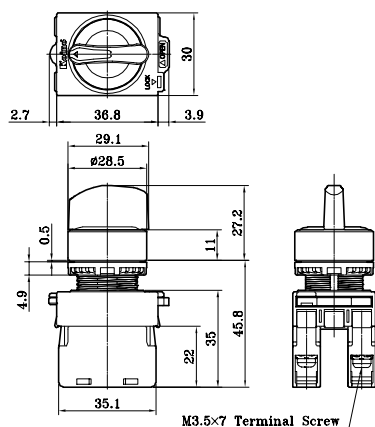
NS22-L Pilot Lamp (Full voltage)	NS22-L Pilot Lamp (Transformer)
NS22-PEM Mushroom Head Push Button	NS22-PER Mushroom Head Push to Lock / Turn to Release
NS22-BER Mushroom Head Push to Lock / Turn to Release (Full voltage)	NS22-BER Mushroom Head Push to Lock / Turn to Release (Transformer)

- A Power switch
- B Cam switch
- C Safety switch
- D Control switch
- E Limit switch
- F Micro switch
- G Foot switch
- H Terminal block
- I Control box
- J Cover

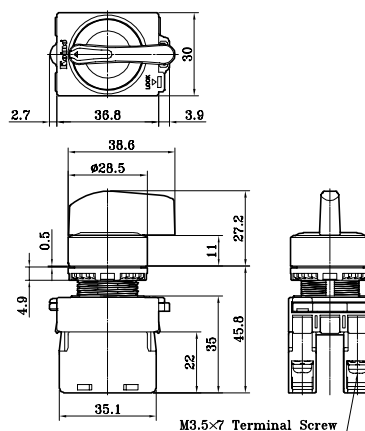
CONTROL COMPONENT

Dimensions

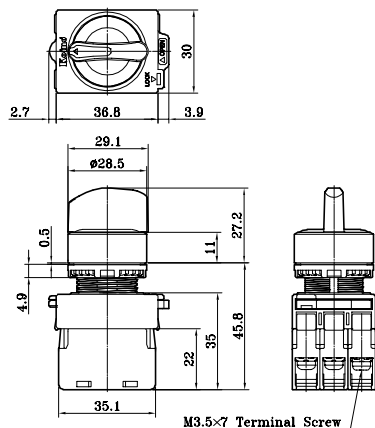
NS22-S Non-Illuminated Short Knob Selector



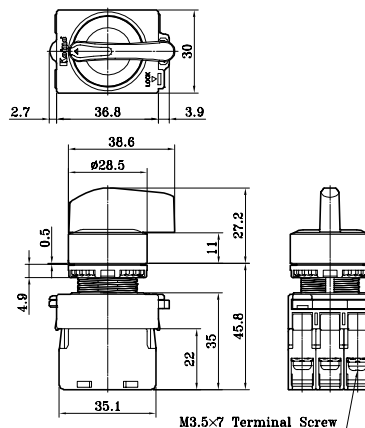
NS22-SL Non-Illuminated Long Knob Selector



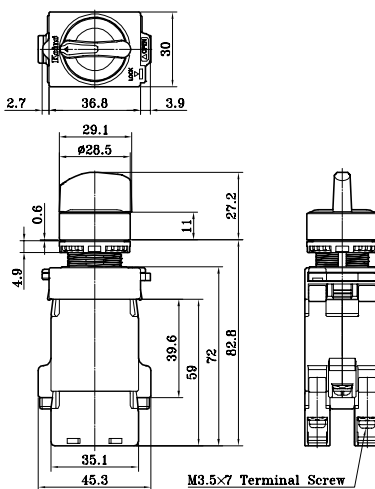
NS22-S Illuminated Short Knob Selector (Full voltage)



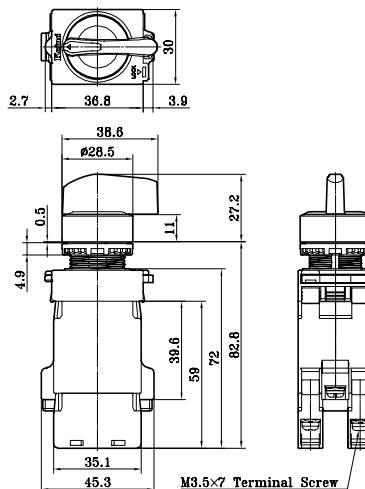
NS22-SL Illuminated Long Knob Selector (Full voltage)



NS22-S Illuminated Short Knob Selector (Transformer)



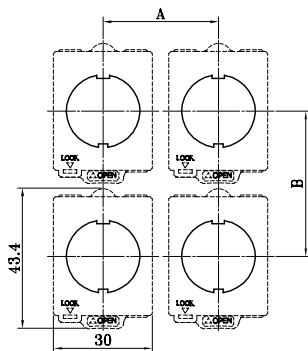
NS22-SL Illuminated Long Knob Selector (Transformer)



Dimensions

NS22-K Key Selector	NS22-PEM6 Mushroom Head Push Button
※ Key Switch Manual type can be specified when ordering key catch position	
NS22 Contact Block	NS22 Lamp Block

Panel Mounting Spacing



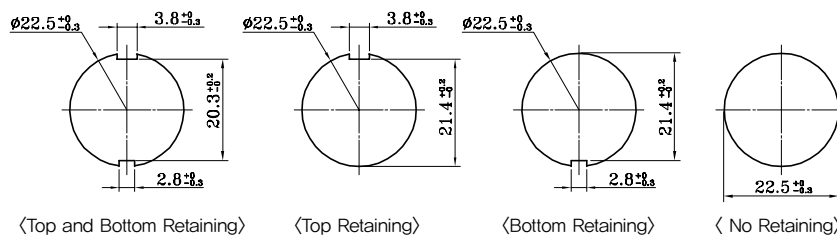
Mounting Spacing Table

	Standard	Long Knob Type	Double Button Type	Mushroom head type
A	30mm min.	50mm min.	30mm min.	55mm min.
B	50mm min.	50mm min.	55mm min.	55mm min.

Precautions

- ※ The panel mounting spacing shownThe panel mounting intervals shown are the minimum recommended dimensions for product installation.
- ※ Mounting spacing may vary depending on the installation location and work environment.
- ※ Please process the panel after confirming the wiring installation direction and the direction of the switch operating mechanism.
- ※ For other matters not specified, apply according to the conditions at the site.

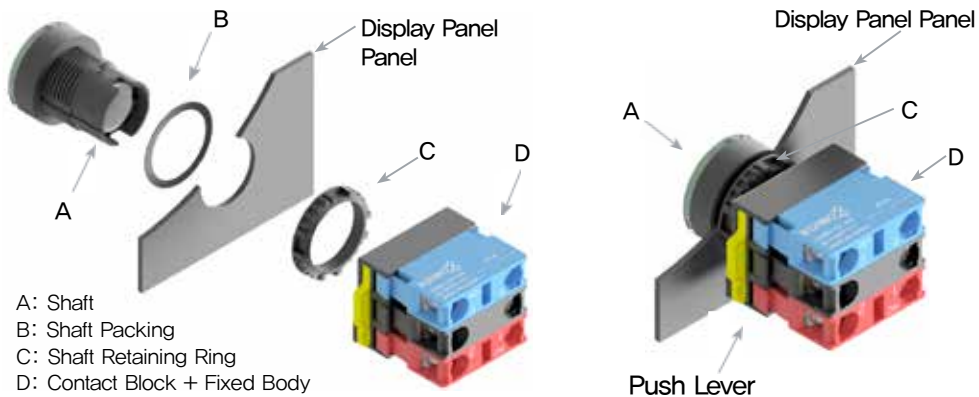
Panel Mounting Hole Cutting Dimensions



Panel Cutting Size

CONTROL COMPONENT

Assembly and Disassembly Method



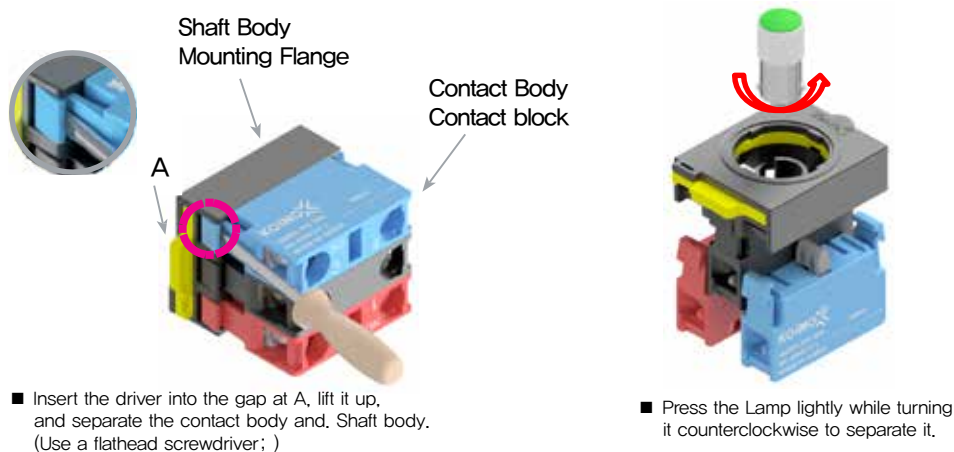
- ① Push A and B together from the front of the display Panel
- ② Secure C to the screw on A from the rear of the display Panel
- ③ Align D with the groove on A, insert it into the groove, and Push it in until you hear a 'click' to secure it.
- ④ To disassemble, hold D while pressing the Push Lever, then pull to separate.
- ⑤ When using tightening tools, do not apply excessive force exceeding the maximum torque of 30 kgf/cm².
(Risk of shaft damage)

Operating Unit Disassembly



1. Press the Push Lever and pull to separate.
2. Insert a screwdriver into the groove of part A, pry it up, and separate.

Contact Body Disassembly



CONTROL COMPONENT

Ø30 Extension Auxiliary Ring Diameter expanding adapter



Precautions

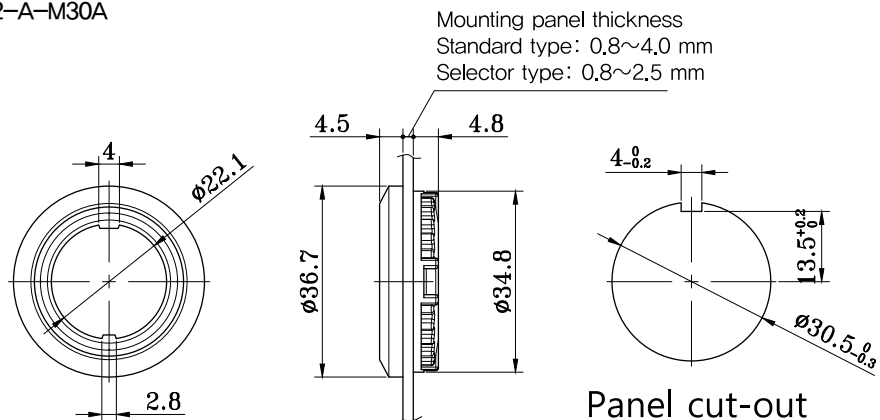
- Before using the product, please refer to the Manual for the correct usage of the NS22-A-M30A.
- The NS22-A-M30A is an accessory that modifies NS22 Series products designed for panel mounting holes with a diameter of Ø22mm
- The IP rating is the same as the NS22 Series. Please tighten sufficiently to ensure the product's waterproof function.
- When installing this product, take care to prevent the O-ring from coming loose.

Product Features

- For Push-Button switches: Mounting panel thickness: 0.8mm ~ 4.0mm
- For Selector Switches: Mounting panel thickness: 0.8mm ~ 2.5mm
- Ingress Protection is IP66.
- Mounting panel machining diameter: Ø30mm.

External Dimensions and Panel Machining Dimensions

NS22-A-M30A



A Power switch

B Cam switch

C Safety switch

D Control switch

E Limit switch

F Micro switch

G Foot switch

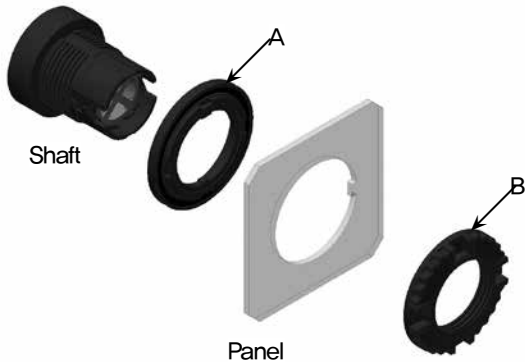
H Terminal block

I Control box

J Cover

CONTROL COMPONENT

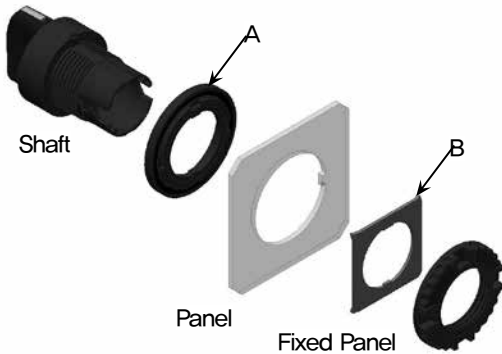
NS22-A-M30A Mounting Method Push Button Switch



1. Align the protruding part of A (guard) with the groove on the shaft (Shaft, A)
2. Secure the panel (0.8~4.0mm thick) to the panel mounting section of A. (A, Panel)
3. Secure the threaded portion of B (mounting ring) to the threaded portion of the shaft, (Shaft, B) (Tighten to ensure the O-ring on A is fully seated against the shaft and Panel)

NS22-A-M30A Mounting Method

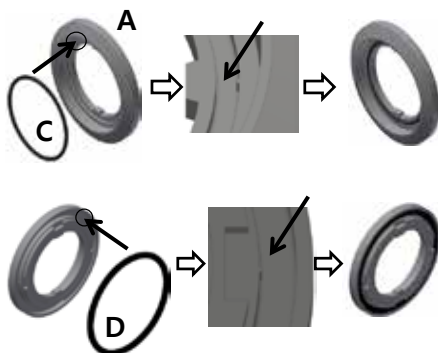
Selector Switch



1. Align the protruding part of A (guard) with the groove on the shaft Connect, (Shaft, A)
2. Secure a 0.8~2.5mm panel to the panel mounting section of A. (A, Panel) (A, Panel)
3. Align the protruding part of the fixing plate with the groove on the shaft. (Shaft, Mounting Plate)
4. Securely fasten the threaded portion of B (mounting ring) to the threaded portion of the shaft (Shaft, B) (Tighten to ensure the O-ring on A is fully seated against the shaft and Panel) (Tighten to secure.)

NS22-A-M30A

Assembly Method When Guard O-Ring Detaches



1. Fully insert C (Ø23.6 O-ring) into the front mounting groove of A (guard).
2. Push D (Ø31 O-ring) sufficiently into the rear mounting groove of A (guard).

※ When removing A (guard), there is a possibility that C and D (O-ring) may detach from A (guard), and, Using the device with the O-ring detached may reduce the reliability of the IP rating.

※ Use recommended tools
– Installation tool (sold separately)



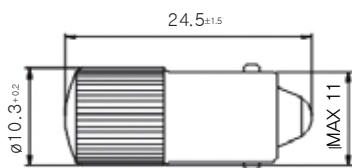
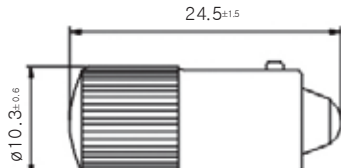
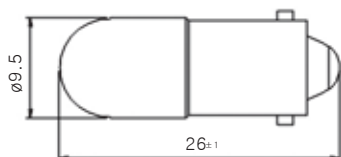
NF30-A-F2 (Ø30)

KH-2201-A-F2 (Ø22)

CONTROL COMPONENT



Lamp Configuration

Appearance.	Type		Dimensions
	6V DC	Red	 24,5$\pm$1,5 $\varnothing$10,3$^{+0,2}_{-0,2}$ MAX 11 BA 9S PIN
		Green	
		Yellow	
		Blue	
		White	
		Amber(Orange)	
	12V DC	Red	
		Green	
		Yellow	
		Blue	
		White	
		Amber(Orange)	
	24V DC	Red	
		Green	
		Yellow	
		Blue	
		White	
		Amber(Orange)	
	110V AC	Red	 24,5$\pm$1,5 $\varnothing$10,3$^{+0,6}_{-0,6}$ BA 9S PIN
		Green	
		Yellow	
		Blue	
		White	
		Amber(Orange)	
220V AC	Red		
	Green		
	Yellow		
	Blue		
	White		
	Amber(Orange)		
	6.3V 1W		 $\varnothing$9,5 26$\pm$1 BA 9S PIN
	12V 1W		
	24V 1W		

A Power switch

B Cam switch

C Safety switch

D Control switch

E Limit switch

F Micro switch

G Foot switch

H Terminal block

I Control box

J Cover

CONTROL COMPONENT

NS22 Series Accessories

Installation Tool



Fixed Panel



Shaft Retaining Ring



Nameplate



Support



NS22-D Boot Seal



Lamp



LED

Connector Cover



Housing Clip



Filament Bulb