

Pushbutton Switches

A30NZ-M□□-□□A

30-mm Pushbutton Switches

Universal Design.

Emphasis on Color Coding, Workability, and Safety.

Easy to Use

- You can connect up to three Contact Blocks in one stage for multistage expansion.
- The terminals can be retightened when Contact Blocks are stacked.
- Contact Blocks can be attached in any direction for easy assembly.
- Screw terminal structure is compatible with round crimp terminals.

Safety

- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- Different colors of Contact Blocks (NO: blue, NC: orange) help prevent wiring errors.

Product Lineup

- Meet global safety standards.
- Many color variations.



Refer to *Safety Precautions for All Pushbutton Switches/Indicators* and *Safety Precautions* on page 9.

Button Colors

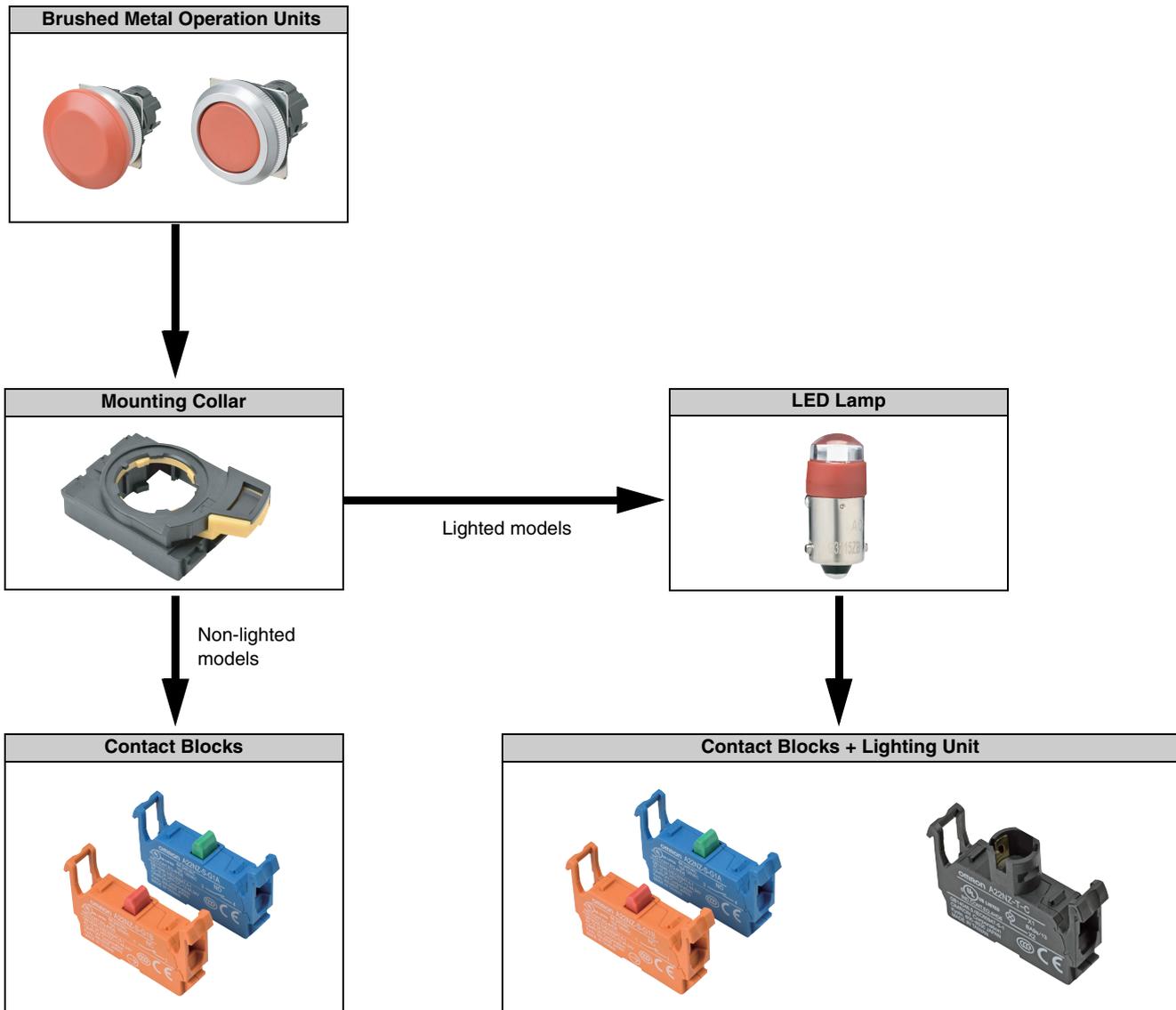
		Red	Green	Yellow	White	Blue	Black		
Non-lighted Switches	A30NZ-M□□-N□A Opaque								
	A30NZ-M□□-U□A Transparent								
Lighted Switches	A30NZ-M□□-T□A Transparent	When not lit	Red	Green	Yellow	White	Blue	Orange	
		When lit	Red	Green	Yellow	White	Blue	Orange	Opaque white*

* The colors when the Switches are lit are for transparent white buttons (code: TW) and yellow LED Lamps (code: Y).

A30NZ-M□□-□□A

Structure

Switch Structure - - - Order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually. The same LED Lamps, Mounting Collars, and Contact Blocks are also used for the A22N Series.



Note: Use a Reinforcement Plate for greater strength.



- Specifications: Refer to page 6.
- Accessories and tools: Refer to the A22NN/A22NL.

- Dimensions: Refer to page 8.

Model Number Structure

Model Number Legend - -Order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually. The same LED Lamps, Mounting Collars, and Contact Blocks are also used for the A22N Series.

Subassemblies

A30N ⁽¹⁾ Z - ⁽²⁾ MN ⁽³⁾ M - ⁽⁴⁾ NR ⁽⁵⁾ A

(1) Type

Code	Type
Z	Subassembly

(2) Bezel Material and Button Shape

Code	Bezel material	Button shape
MN	Brushed metal	Flat
MP	Brushed metal	Projected
MG	Brushed metal	Full guard
MM	Brushed metal	Mushroom

(3) Switch Action

Code	Description
M	Momentary
A	Alternate

(4) Button Transparency and Color

Lighted/non-lighted	Code	Transparency	Color
Non-lighted	NR	Opaque	Red
	NG	Opaque	Green
	NY	Opaque	Yellow
	NW	Opaque	White
	NA	Opaque	Blue
	NB	Opaque	Black
	UR	Transparent	Red
	UG	Transparent	Green
	UY	Transparent	Yellow
	UW	Transparent	White
	UA	Transparent	Blue
Lighted	UO	Transparent	Orange
	TR	Transparent	Red
	TG	Transparent	Green
	TY	Transparent	Yellow
	TW	Transparent	White
	TA	Transparent	Blue
TO	Transparent	Orange	

(5) Degree of Protection

Code	Description
A	IP66

■ Specifications: Refer to page 6.
 ■ Dimensions: Refer to page 8.

■ Precautions for correct use: Refer to page 9.
 ■ Accessories and tools: Refer to the A22NN/A22NL.

A30NZ-M□□-□□A

Ordering Information

Subassemblies ----- Order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually. The same LED Lamps, Mounting Collars, and Contact Blocks are also used for the A22N Series.

Operation Units

Bezel material and button shape			Brushed metal, flat		Brushed metal, projected	
						
Lighted/ non-lighted	Switch Action		Momentary	Alternate	Momentary	Alternate
	Transparency	Color	Model	Model	Model	Model
Non-lighted	Opaque	Red	A30NZ-MNM-NRA	A30NZ-MNA-NRA	A30NZ-MPM-NRA	A30NZ-MPA-NRA
	Opaque	Green	A30NZ-MNM-NGA	A30NZ-MNA-NGA	A30NZ-MPM-NGA	A30NZ-MPA-NGA
	Opaque	Yellow	A30NZ-MNM-NYA	A30NZ-MNA-NYA	A30NZ-MPM-NYA	A30NZ-MPA-NYA
	Opaque	White	A30NZ-MNM-NWA	A30NZ-MNA-NWA	A30NZ-MPM-NWA	A30NZ-MPA-NWA
	Opaque	Blue	A30NZ-MNM-NAA	A30NZ-MNA-NAA	A30NZ-MPM-NAA	A30NZ-MPA-NAA
	Opaque	Black	A30NZ-MNM-NBA	A30NZ-MNA-NBA	A30NZ-MPM-NBA	A30NZ-MPA-NBA
	Transparent	Red	A30NZ-MNM-URA	A30NZ-MNA-URA	A30NZ-MPM-URA	A30NZ-MPA-URA
	Transparent	Green	A30NZ-MNM-UGA	A30NZ-MNA-UGA	A30NZ-MPM-UGA	A30NZ-MPA-UGA
	Transparent	Yellow	A30NZ-MNM-UYA	A30NZ-MNA-UYA	A30NZ-MPM-UYA	A30NZ-MPA-UYA
	Transparent	White	A30NZ-MNM-UWA	A30NZ-MNA-UWA	A30NZ-MPM-UWA	A30NZ-MPA-UWA
	Transparent	Blue	A30NZ-MNM-UAA	A30NZ-MNA-UAA	A30NZ-MPM-UAA	A30NZ-MPA-UAA
	Transparent	Orange	A30NZ-MNM-UOA	A30NZ-MNA-UOA	A30NZ-MPM-UOA	A30NZ-MPA-UOA
Lighted	Transparent	Red	A30NZ-MNM-TRA	A30NZ-MNA-TRA	A30NZ-MPM-TRA	A30NZ-MPA-TRA
	Transparent	Green	A30NZ-MNM-TGA	A30NZ-MNA-TGA	A30NZ-MPM-TGA	A30NZ-MPA-TGA
	Transparent	Yellow	A30NZ-MNM-TYA	A30NZ-MNA-TYA	A30NZ-MPM-TYA	A30NZ-MPA-TYA
	Transparent	White	A30NZ-MNM-TWA	A30NZ-MNA-TWA	A30NZ-MPM-TWA	A30NZ-MPA-TWA
	Transparent	Blue	A30NZ-MNM-TAA	A30NZ-MNA-TAA	A30NZ-MPM-TAA	A30NZ-MPA-TAA
	Transparent	Orange	A30NZ-MNM-TOA	A30NZ-MNA-TOA	A30NZ-MPM-TOA	A30NZ-MPA-TOA

Bezel material and button shape			Brushed metal, full-guard		Brushed metal, mushroom	
						
Lighted/ non-lighted	Switch Action		Momentary	Alternate	Momentary	Alternate
	Transparency	Color	Model	Model	Model	Model
Non-lighted	Opaque	Red	A30NZ-MGM-NRA	A30NZ-MGA-NRA	A30NZ-MMM-NRA	A30NZ-MMA-NRA
	Opaque	Green	A30NZ-MGM-NGA	A30NZ-MGA-NGA	A30NZ-MMM-NGA	A30NZ-MMA-NGA
	Opaque	Yellow	A30NZ-MGM-NYA	A30NZ-MGA-NYA	A30NZ-MMM-NYA	A30NZ-MMA-NYA
	Opaque	White	A30NZ-MGM-NWA	A30NZ-MGA-NWA	A30NZ-MMM-NWA	A30NZ-MMA-NWA
	Opaque	Blue	A30NZ-MGM-NAA	A30NZ-MGA-NAA	A30NZ-MMM-NAA	A30NZ-MMA-NAA
	Opaque	Black	A30NZ-MGM-NBA	A30NZ-MGA-NBA	A30NZ-MMM-NBA	A30NZ-MMA-NBA
	Transparent	Red	A30NZ-MGM-URA	A30NZ-MGA-URA	A30NZ-MMM-URA	A30NZ-MMA-URA
	Transparent	Green	A30NZ-MGM-UGA	A30NZ-MGA-UGA	A30NZ-MMM-UGA	A30NZ-MMA-UGA
	Transparent	Yellow	A30NZ-MGM-UYA	A30NZ-MGA-UYA	A30NZ-MMM-UYA	A30NZ-MMA-UYA
	Transparent	White	A30NZ-MGM-UWA	A30NZ-MGA-UWA	A30NZ-MMM-UWA	A30NZ-MMA-UWA
	Transparent	Blue	A30NZ-MGM-UAA	A30NZ-MGA-UAA	A30NZ-MMM-UAA	A30NZ-MMA-UAA
	Transparent	Orange	A30NZ-MGM-UOA	A30NZ-MGA-UOA	A30NZ-MMM-UOA	A30NZ-MMA-UOA
Lighted	Transparent	Red	A30NZ-MGM-TRA	A30NZ-MGA-TRA	A30NZ-MMM-TRA	A30NZ-MMA-TRA
	Transparent	Green	A30NZ-MGM-TGA	A30NZ-MGA-TGA	A30NZ-MMM-TGA	A30NZ-MMA-TGA
	Transparent	Yellow	A30NZ-MGM-TYA	A30NZ-MGA-TYA	A30NZ-MMM-TYA	A30NZ-MMA-TYA
	Transparent	White	A30NZ-MGM-TWA	A30NZ-MGA-TWA	A30NZ-MMM-TWA	A30NZ-MMA-TWA
	Transparent	Blue	A30NZ-MGM-TAA	A30NZ-MGA-TAA	A30NZ-MMM-TAA	A30NZ-MMA-TAA
	Transparent	Orange	A30NZ-MGM-TOA	A30NZ-MGA-TOA	A30NZ-MMM-TOA	A30NZ-MMA-TOA

- Specifications: Refer to page 6. ■ Dimensions: Refer to page 8.
- Accessories and tools: Refer to the A22NN/A22NL.

Ordering Information

Subassemblies -- Order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually. The same LED Lamps, Mounting Collars, and Contact Blocks are also used for the A22N Series.

LED Lamps

Appearance	Applied voltage	6 VAC/DC	12 VAC/DC	24 VAC/DC	100/110/120 VAC	200/220/230/240 VAC
	Color	Model	Model	Model	Model	Model
	Red	A22NZ-L-RA	A22NZ-L-RB	A22NZ-L-RC	A22NZ-L-RD	A22NZ-L-RE
	Green	A22NZ-L-GA	A22NZ-L-GB	A22NZ-L-GC	A22NZ-L-GD	A22NZ-L-GE
	Yellow	A22NZ-L-YA	A22NZ-L-YB	A22NZ-L-YC	A22NZ-L-YD	A22NZ-L-YE
	White	A22NZ-L-WA	A22NZ-L-WB	A22NZ-L-WC	A22NZ-L-WD	A22NZ-L-WE
	Blue	A22NZ-L-AA	A22NZ-L-AB	A22NZ-L-AC	A22NZ-L-AD	A22NZ-L-AE
	Orange	A22NZ-L-OA	A22NZ-L-OB	A22NZ-L-OC	A22NZ-L-OD	A22NZ-L-OE

Mounting Collar

Appearance	Model
	A22NZ-H-01

Contact Blocks

Appearance	Contacts	Model
	SPST-NO (blue)	A22NZ-S-G1A
	SPST-NC (orange)	A22NZ-S-G1B

Lighting Units

Appearance	Applied voltage	Model
	6 VAC/DC	A22NZ-T-A
	12 VAC/DC	A22NZ-T-B
	24 VAC/DC	A22NZ-T-C
	100/110/120 VAC	A22NZ-T-D
	200/220/230/240 VAC	A22NZ-T-E

Reinforcement Plate

Appearance	Model
	A22NZ-A-C01

A30NZ-M□□-□□A

Specifications (When Operation Unit, LED Lamp, Mounting Collar, and Contact Blocks Are Combined)

Ratings

Contacts (Standard Load)

Rated insulation voltage		600 V				
Rated carry current		10 A				
Applied voltage		24 V	120 V	240 V	380 V	440 V
AC at 50/60 Hz	Resistive load (AC-12)	10 A	10 A	6 A	2A	2 A
	Inductive load (AC-15)	10 A	6 A	3 A	1.9 A	1.6 A
DC	Resistive load (DC-12)	8 A	2.2 A	1.1 A	---	---
	Inductive load (DC-13)	4 A	1.1 A	0.55 A	---	---

Note: 1. The above ratings were obtained by conducting tests under the following conditions.

(1) Ambient temperature: $20 \pm 2^{\circ}\text{C}$

(2) Ambient humidity: $65\% \pm 5\%$ RH

(3) Operating frequency: 30 operations/minute

2. Minimum applicable load: 10 mA at 5 VDC.

LED Lamps

Rated voltage	Applied voltage	Rated current
6 VAC/DC	6 VAC/DC $\pm 10\%$	Approx. 11 mA (red, orange, yellow, or blue)
		Approx. 5 mA (white or green)
12 VAC/DC	12 VAC/DC $\pm 10\%$	Approx. 12 mA (red, orange, yellow, or blue)
		Approx. 5 mA (white or green)
24 VAC/DC	24 VAC/DC $\pm 10\%$	Approx. 12 mA (red, orange, yellow, or blue)
		Approx. 5 mA (white or green)
100 VAC	100 VAC $\pm 10\%$	Approx. 2 mA
110 VAC	110 VAC $\pm 10\%$	
120 VAC	100 to 130 VAC	
200 VAC	200 VAC $\pm 10\%$	Approx. 2 mA
220 VAC	220 VAC $\pm 10\%$	
230 VAC	230 VAC $\pm 10\%$	
240 VAC	220 to 250 VAC	

Specifications (When Operation Unit, LED Lamp, Mounting Collar, and Contact Blocks Are Combined)

Characteristics

Item	Type	Pushbutton Switches	
		Non-lighted models	Lighted models
Allowable operating frequency	Mechanical	60 operations/minute max.	
	Electrical	30 operations/minute max.	
Insulation resistance		100 MΩ min. (at 500 VDC)	
Contact resistance		100 mΩ max. (initial value)	
Dielectric strength	Between terminals of same polarity	2,500 VAC at 50/60 Hz for 1 min	
	Between each terminal and ground	2,500 VAC at 50/60 Hz for 1 min	
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)	
Shock resistance	Malfunction	1,000 m/s ² max. (malfunction within 1 ms)	
Durability	Mechanical	Momentary action: 5,000,000 operations min. Alternate action: 500,000 operations min.	
	Electrical	500,000 operations min.	
Ambient operating temperature ^{*1}		-25 to 70°C	-25 to 55°C
Ambient operating humidity		35% to 85% RH	
Ambient storage temperature ^{*1}		-40 to 80°C	
Degree of protection ^{*2}		IP66	
Electric shock protection class		Class II	
PTI (tracking characteristic)		175	
Degree of contamination (application environment)		3 (IEC 60947-5-1)	
Weight		Approx. 60 g (for 1NC/1NO)	Approx. 75 g (for 1NC/1NO)

*1. With no icing or condensation.

*2. Degree of protection from the front of the panel.

Operating Characteristics (for SPST-NO/SPST-NC)

Item	Type	Pushbutton Switches
		Lighted/non-lighted
Total travel force (torque) (maximum TTF)		18 N
Total travel (TT)		6 mm max.
Resetting force (torque) (RF)		---

Examples of Linked Contact Blocks

□ Contact Blocks

■ Lighting Units

	Pushbutton Switches			
	Momentary		Alternate	
	Lighted	Non-lighted	Lighted	Non-lighted
Linking example				

Note: If you increase the number of Contact Blocks, evaluate the Switch under actual working conditions before permanent installation and use the Switch within a number of switching operations that will not adversely affect the Switch's performance.

A30NZ-M□□-□□A

Dimensions

(Unit: mm)

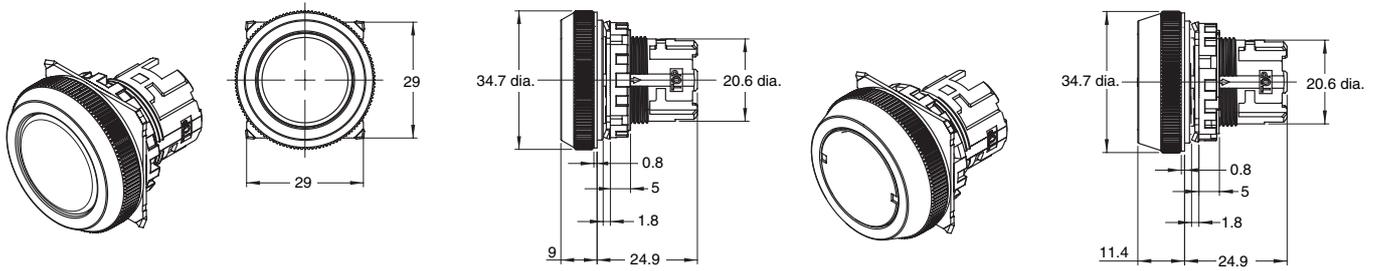
Lighted and Non-lighted Pushbutton Switches

Flat Switches with Brushed Metal Bezels

A30NZ-MN□-N□A

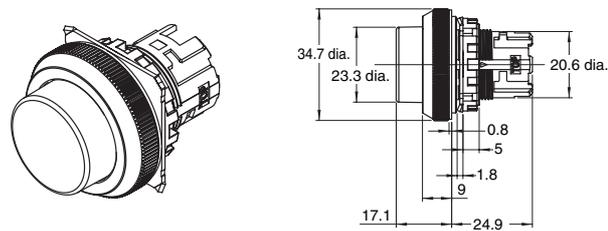
A30NZ-MN□-T□A

A30NZ-MN□-U□A



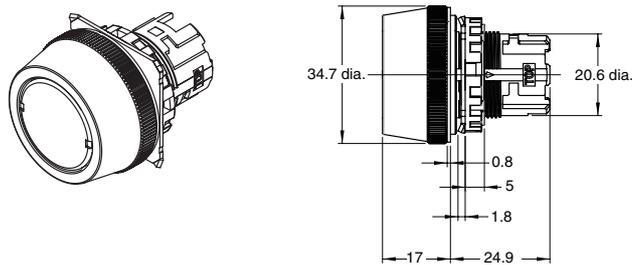
Projected Switches with Brushed Metal Bezels

A30NZ-MP□-□□A



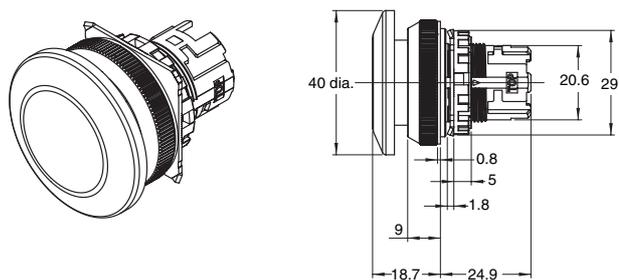
Full-guard Switches with Brushed Metal Bezels

A30NZ-MG□-□□A

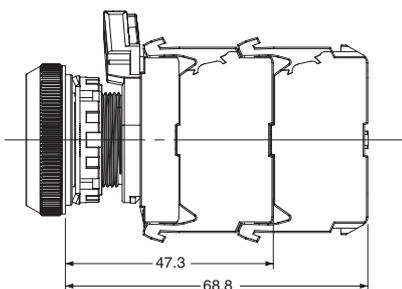


Mushroom Switches with Brushed Metal Bezels

A30NZ-MM□-□□A



Depth with Linked Units



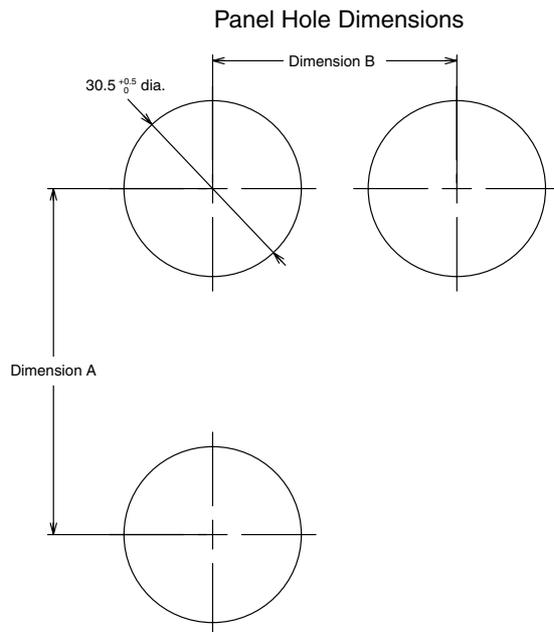
Safety Precautions

Refer to Safety Precautions for All Pushbutton Switches/Indicators.
Read the *Safety Precautions* in the A22NN/A22NL datasheet.

Application

Mounting to the Panel

- Panel hole dimensions are given below.
- The recommended panel thicknesses is 0.8 to 7 mm.
- If outer surface treatment such as coating is performed for the panel, the panel dimensions after outer surface treatment must meet the specified panel dimensions.
- The following figure gives pitch dimension A and pitch dimension B between the centers of the mounting holes.



Dimension A

Wire type	Number of linked Contact Blocks	Number of wires per terminal	Minimum allowable pitch Dimension A (mm) or larger
Leads (twisted wires or solid wire)	1	1	50
Bare crimp terminals	1	1	50
Crimp terminals with insulating sheathes	1	1	60

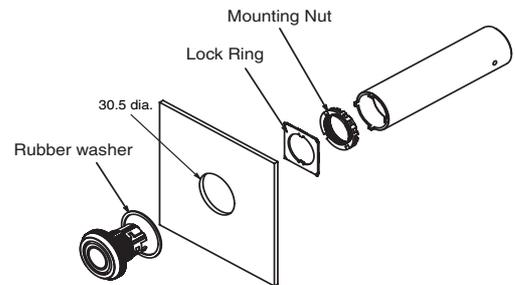
Note: The minimum mounting pitch is based on three Contact Blocks in stage 1 with one wire attached to each terminal.
If you attach two wires or link Units, determine the mounting pitch based on the dimensions diagrams and ease of operation and wiring.

Dimension B

Operation Unit shape	Dimension B
Mushroom	40 mm min.
Other than the above	35 mm min.

Mounting the Operation Unit

- Insert the Operation Unit from the front of the panel, insert the Lock Ring and Mounting Nut from the back of the panel, and tighten the Mounting Nut. Before tightening, check that the rubber washer is present between the Operation Unit and the panel.



Safety Precautions

Refer to Safety Precautions for All Pushbutton Switches/Indicators.

Precautions for Safe Use

- Never perform wiring work on a Switch while power is being supplied. Never touch terminals and other charged parts while power is being supplied. Doing so may result in electrical shock.
- Never attempt to disassemble or modify the Switch in any way. Doing so may prevent correct operation.
- Switch functionality may be inhibited. Do not drop the Switch. Never apply a force that would deform or alter the nature of the Switch.
- The durability of the Switch is greatly affected by operating conditions. Evaluate the Switch under actual working conditions before permanent installation and use the Switch within a number of switching operations that will not adversely affect the Switch's performance.
- Do not use a load voltage or current that exceeds the rating. Doing so may damage or cause burning in the Switch.
- Do not use the Switch in a location with inflammable or explosive gases, or where the Switch would be subjected to inflammable solvents. The arcs and heat generated when the Switch is operated can cause ignition or explosions.
- Do not use the Switch where sulfur gas (H₂S, SO₂), ammonia gas (NH₃), nitric acid gas (HNO₃), chlorine gas (Cl₂), or other harmful gases are present or where high humidity is present. Contact faults and damage due to corrosion may interfere with the functionality of the Switch.
- Do not use the Switch in oil or water or in an environment subject to constant contact with oil or water. The oil or water may enter the Switch, causing failure.
- Do not use or store the Switch in the following locations.
 - Locations subject to rapid temperature changes
 - Locations subject to condensation due to high humidity
 - Locations subject to vibration
 - Locations subject to direct sunlight
 - Locations subject to salty air
- Make sure that the rubber washer is in place between the Operation Unit and the panel. Otherwise, the specifications of the protective structure may not be satisfied.
- Do not subject the Contact Block or wiring to excessive force. The Contact Block may be damaged or deformed and faulty contact may occur.

Precautions for Correct Use

Mounting

- Do not tighten the Mounting Nut more than necessary using tools such as pointed-nose pliers. Doing so will damage the Mounting Nut. (The tightening torque of the Mounting Nut is 1.0 to 2.0 N·m.)

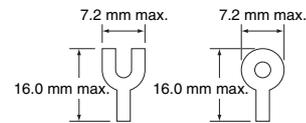
Wiring

- Terminal screws must be M3.5 Phillips or slotted screws with a square washer.
- The terminal screw tightening torque is 1.0 to 1.3 N·m.
- Solid wires, stranded wires, and crimp terminals can be connected to the Switch.

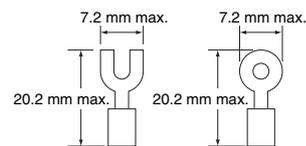
Stranded wires: AWG14 to AWG16

Solid wire: 1.6 dia. max.

Bare Crimp Terminals



Crimp Terminals with Insulating Sheaths



- After wiring the Switch, maintain appropriate clearance and creepage distances.

Operating Environment

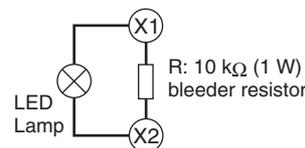
- The Switch is intended for indoor use only. Using the Switch outdoors will result in failure.

LED Lamps

- A current-limiting resistor is built into the LED Lamp, so external resistance is not required.
- False Lighting of the LED Lamp
The LED Lamp will light with a microcurrent of approx. 0.1 mA or less. Take countermeasures, such as adding a resistor in parallel to the LED Lamp, to prevent false lighting. The micro-current varies with the machine (due to leakage current, stray capacity between cables, etc.). Select a resistance value and allowable power consumption according to the actual current.

Example of Circuit to Prevent False Lighting

For 24 VAC/VDC Lighting Unit



Application

Mounting to the Panel

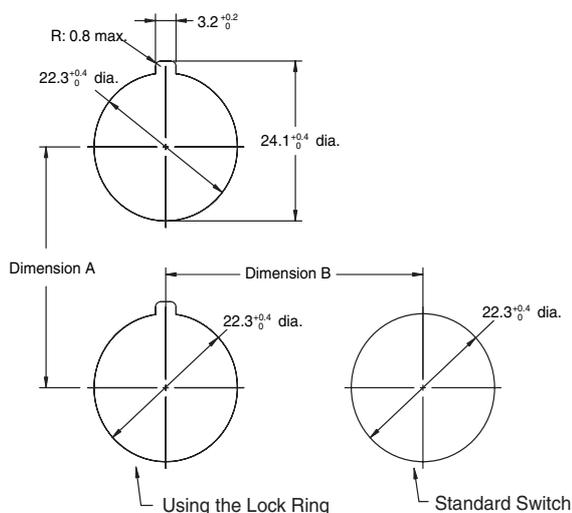
Panel Hole Dimensions

- Panel hole dimensions are given below.
- The recommended panel thicknesses are given below.

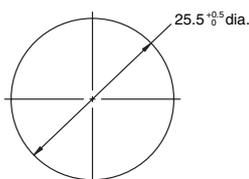
Panel hole dimension	Panel thickness
22.3 dia.	0.8 to 5 mm
25.5 dia.	0.8 to 6 mm

- If outer surface treatment such as coating is performed for the panel, the panel dimensions after outer surface treatment must meet the specified panel dimensions.
- The following figure gives pitch dimension A and pitch dimension B between the centers of the mounting holes.

Panel Hole Dimensions for 22.3 Diameter



Panel Hole Dimensions for 25.5 Diameter



Dimension A

Wire type	Number of linked Contact Blocks	Number of wires per terminal	Minimum allowable pitch Dimension A (mm) or larger
Leads (twisted wires or solid wire)	1	1	50
Bare crimp terminals	1	1	50
Crimp terminals with insulating sheathes	1	1	60

Note: The minimum mounting pitch is based on three Contact Blocks in stage 1 with one wire attached to each terminal. If you attach two wires or link Units, determine the mounting pitch based on the dimensions diagrams and ease of operation and wiring.

Dimension A When Using Accessory

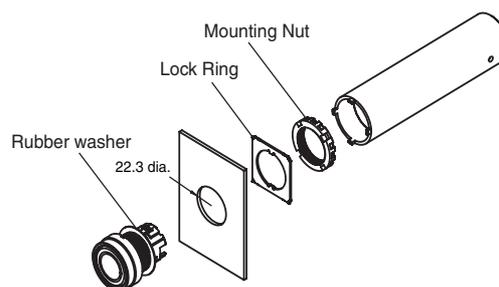
- Dimension A is 50 mm minimum when a Standard Legend Plate Frame is attached.
- Dimension A is 51 mm minimum when a Large Legend Plate Frame is attached.
- Dimension A is 75 mm minimum when a Protective Cover is attached.

Dimension B

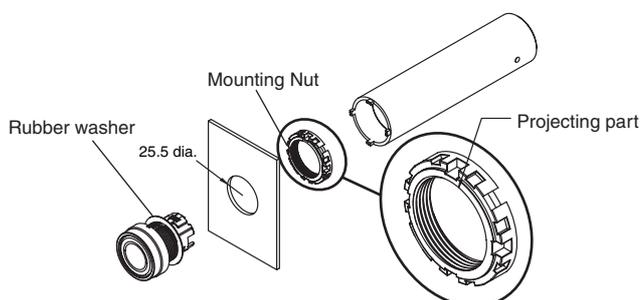
Operation Unit shape	Dimension B
Mushroom	40 mm min.
Other than the above	30 mm min.

Mounting the Operation Unit

- **Panel Hole of 22.3-mm Diameter**
Insert the Operation Unit from the front of the panel, insert the Lock Ring and Mounting Nut from the back of the panel, and tighten the Mounting Nut. Before tightening, check that the rubber washer is present between the Operation Unit and the panel.



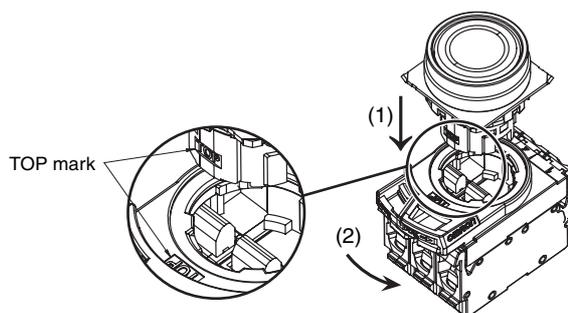
- **Panel Hole of 25.5-mm Diameter**
Do not use the Lock Ring, and tighten the Mounting Nut while confirming that the projecting part (see following figure) on the Mounting Nut is aligned with mounting hole. Before tightening, check that the rubber washer is present between the Operation Unit and the panel.



- Align the Lock Ring with the slot on the case and insert it so that the edge is flush with the panel.

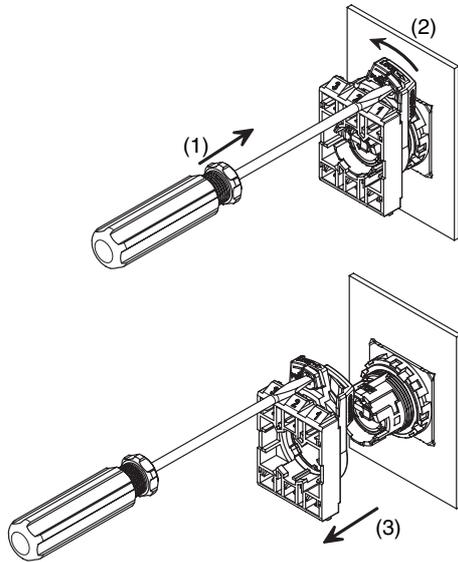
Mounting the Contact Block to the Operation Unit

- Insert the Operation Unit into the Mounting Collar, aligning the TOP mark inscribed on the Operation Unit with the lever on the Mounting Collar, and then turn the lever in the direction indicated by the arrow in the following figure all of the way until it clicks into place.



Removing the Mounting Collar

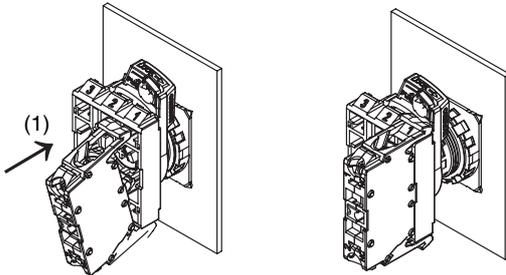
- Press the lock lever in from the back side to release the lock, and then hook the Mounting Collar with a screwdriver, move it in the direction indicated at (2), and remove it. Turn the lever all of the way until it clicks into place.



Contact Block

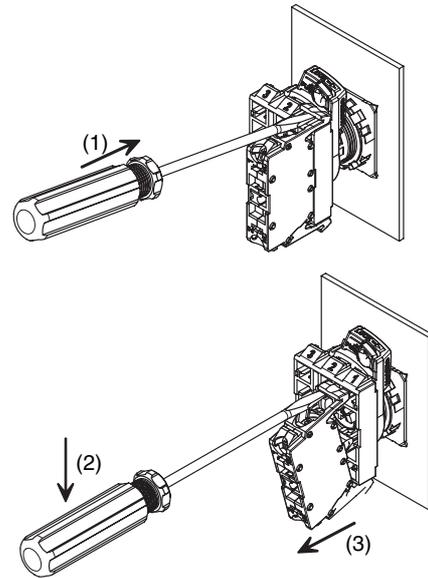
Attaching the Contact Block

- Catch the projection on the opposite side of the Mounting Collar from the lever side and press the Contact Block in the direction indicated at (1).



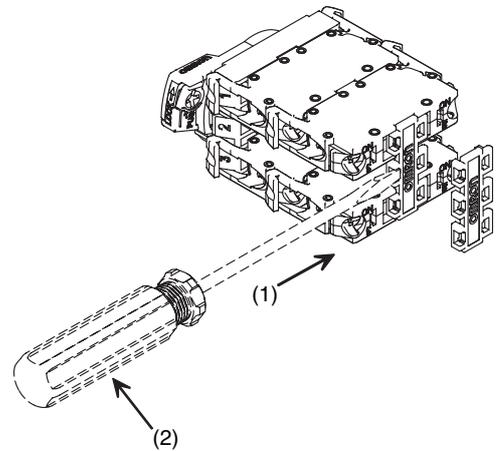
Removing the Contact Block

- Insert a screwdriver into the gap between the Mounting Collar and Contact Block and press it inward in the direction shown at (2).



Attaching the Reinforcement Plate

- To link Contact Blocks together, attach a Reinforcement Plate in the direction shown in the following figure. To remove the Plate, insert a screwdriver in the direction indicated at (1) and rotate it in the direction indicated at (2).



Engraving

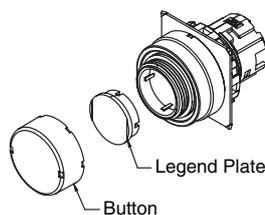
- Engrave legends on the Legend Plates.
Do so with the straight part of the Legend Plate positioned on the right and left.
- The characters must be engraved no deeper than 0.5 mm. Use an alcohol-based paint, such as a melamine, phthalic acid, or acrylic resin based paint.

Projected, Full-guard, or Mushroom Switches	Flat Switches
 15.4 dia.	 17.7 dia.

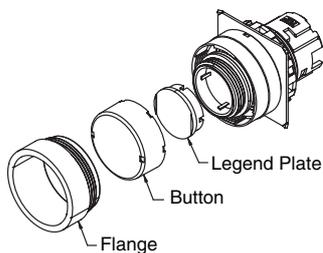
Attaching Character Films

- To attach a character film, remove the Button and attach the film, aligning it with the straight portions of the Legend Plate.

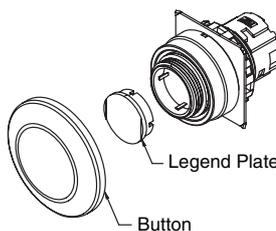
Projected Switches



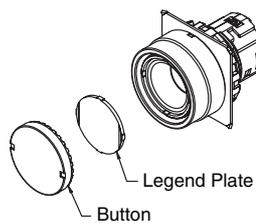
Full-guard Switches



Mushroom Switches



Flat Switches

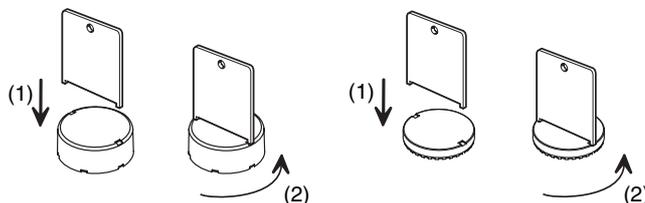


- Prepare films of the following sizes depending on the type of Legend Plate.

Projected, Full-guard, or Mushroom Switches	Legend Plate dimensions	
	Film dimensions	
Flat Switches	Legend Plate dimensions	
	Film dimensions	

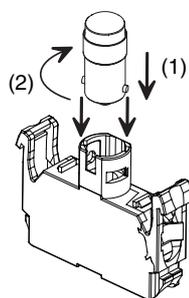
Removing and Tightening the Cap

For all Switches except for Mushroom Switches, use the A22Z-3908 Cap Tightening Tool to loosen the cap. When you tighten the cap, make sure that the Legend Plate is in the correct position and then turn the cap in the direction opposite of the direction shown in the following figure. Tighten it to a torque of 0.5 to 1.0 N·m so that it will not become loose.



Attaching the LED Lamp to the Lighting Unit

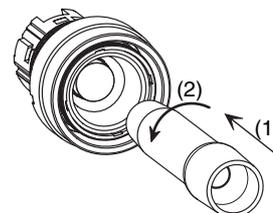
- Insert the protrusions on the LED Lamp into the guides on the Lighting Unit and then turn the LED Lamp in direction (2) to lock it in place.



Attaching and Replacing LED Lamps

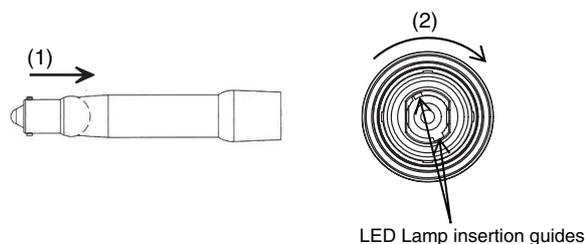
Removing the LED Lamp from the Panel Surface

- Insert the LED Lamp Extractor as shown in the following figure and then rotate the Extractor in the direction shown at (2) while pressing it inward.



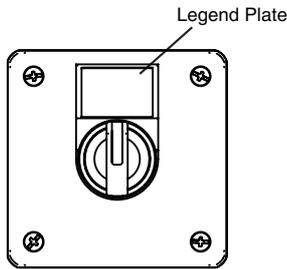
Attaching the LED Lamp from the Panel Surface

- Insert the LED Lamp into the LED Lamp Extractor as shown in the following figure. Align the projections on the LED Lamp with the LED Lamp insertion guides, insert the LED Lamp, and turn it in the direction indicated at (2).



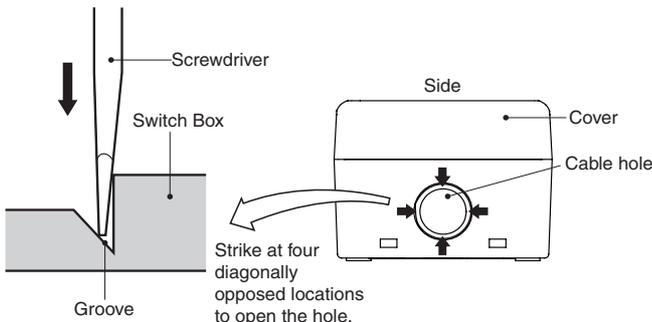
Control Box

You can attach a Legend Plate Frame.
 Attach it in the direction shown in the following figure.
 Mount the Switch in the same way as for a standard panel. The tightening torque of the Box screws is 1.4 to 2.0 N·m.



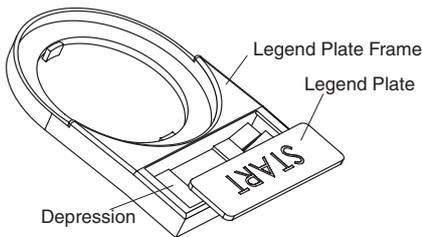
Creating a Cable Hole

To open a cable hole, leave the cover attached, place the tip of a screwdriver in the grooves at four locations around the cable hole, and strike the screwdriver with a hammer to open the hole.

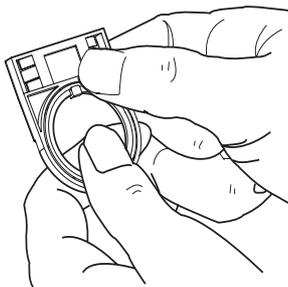


Attaching and Removing Legend Plates

- Press the Legend Plate into the depression in the Legend Plate Frame. The Legend Plate Frame can be separate or it can be mounted on the panel when you attach the Legend Plate.
- The direction of the characters will depend on the mounting direction of the Operation Unit if the Switch is a Selector Switch or Key Selector Switch.

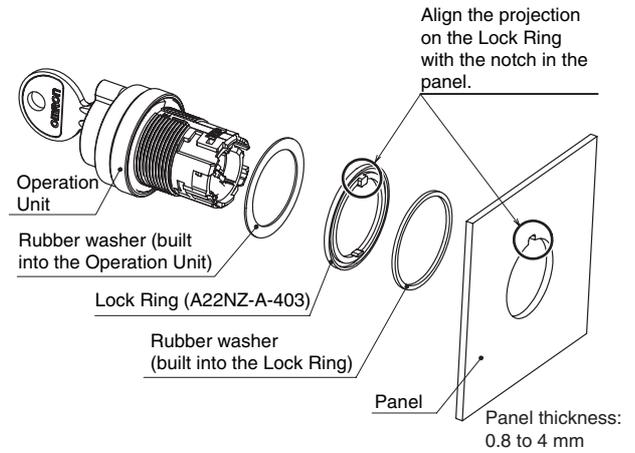


- You can easily remove the Legend Plate by pressing it forwards from the back of the Legend Plate Frame.
- The acrylic plastic Legend Plate is easily damaged by shock. Handle it with care.

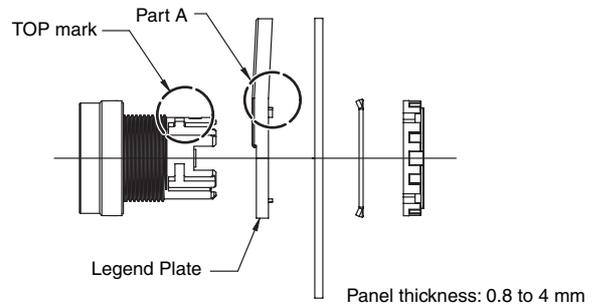


Attaching the Lock Ring

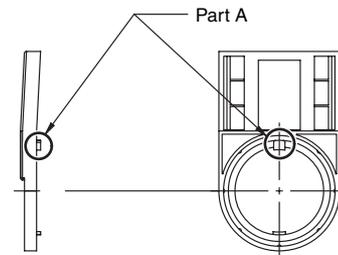
Attach the Lock Ring as shown in the following figure.
 To ensure water resistance, attach the rubber washer in the specified location.



- Align the TOP mark on the Operation Unit, part A on the Legend Plate, and the notch in the panel, and insert the Operation Unit.

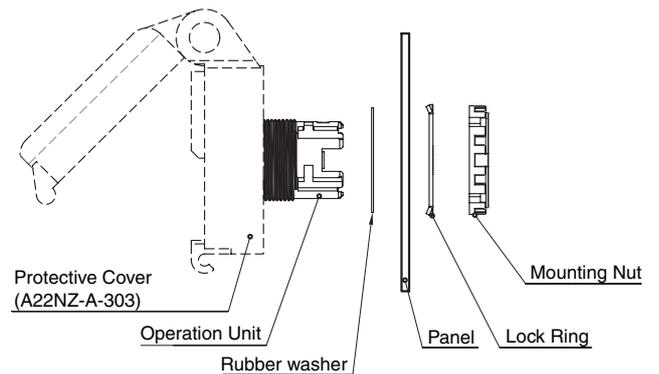


- If there is no notch in the panel, remove part A from the Legend Plate with pliers.



Attaching the Protective Cover

Attach the Protective Cover (A22NZ-A-303) to a panel that is 0.8 to 1.0 mm thick. To ensure water resistance, attach the rubber washer in the specified location.



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