

# 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 Contract 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.

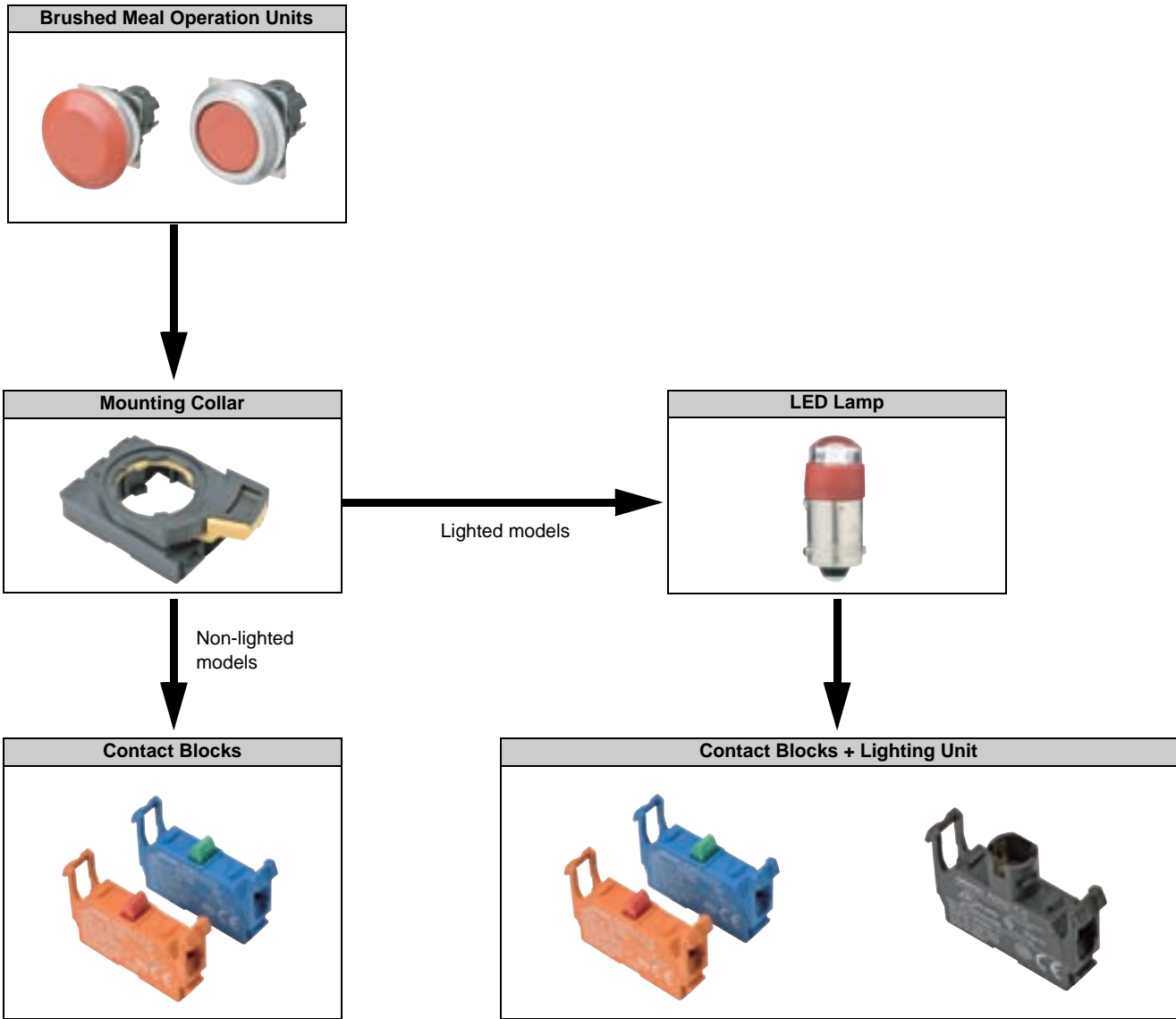
### Button Colors

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

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

## 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

A 3 0 N <sup>(1)</sup> Z - <sup>(2)</sup> M N <sup>(3)</sup> M - <sup>(4)</sup> N R <sup>(5)</sup> 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
	UO	Transparent	Orange
Lighted	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.

## 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:  $65\% \pm 5\% \text{ RH}$
- (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. 12 mA (red, orange, yellow, or blue) Approx. 5 mA (white or green)
110 VAC	110 VAC $\pm 10\%$	
120 VAC	100 to 130 VAC	
200 VAC	200 VAC $\pm 10\%$	Approx. 12 mA (red, orange, yellow, or blue) Approx. 5 mA (white or green)
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 <sup>2</sup> 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 <sup>*1</sup>			-25 to 70°C	-25 to 55°C
Ambient operating humidity			35% to 85% RH	
Ambient storage temperature <sup>*1</sup>			-40 to 80°C	
Degree of protection <sup>*2</sup>			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)

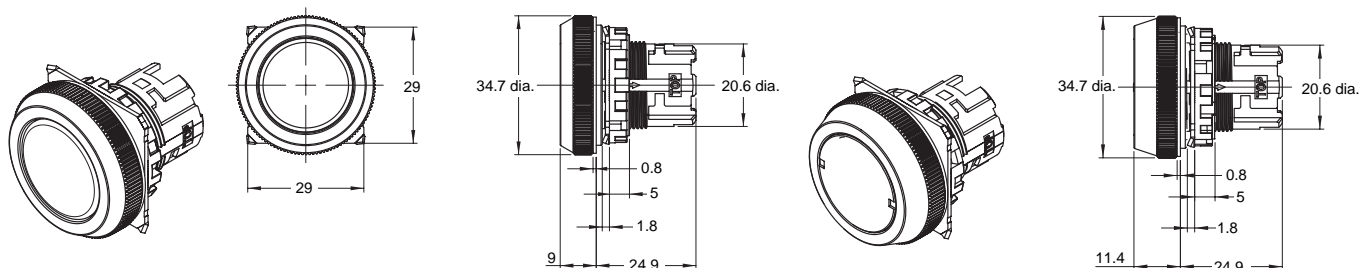
### Lighted and Non-lighted Pushbutton Switches

#### Flat Switches with Brushed Metal Bezels

A30NZ-MN□-N□A

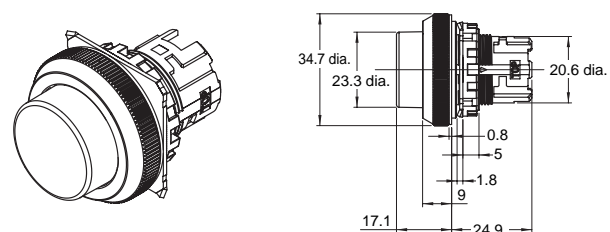
A30NZ-MN□-T□A

A30NZ-MN□-U□A



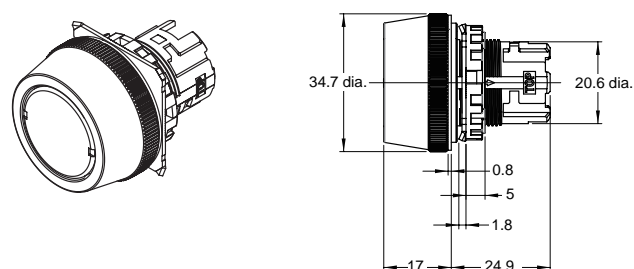
#### Projected Switches with Brushed Metal Bezels

A30NZ-MP□-□□A



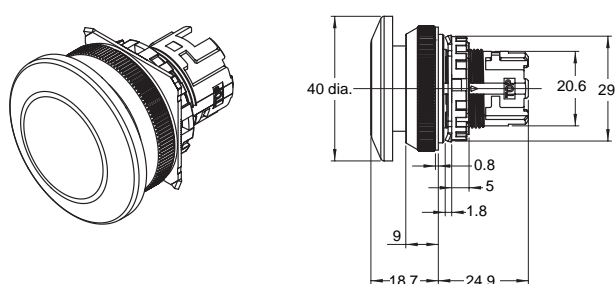
#### Full-guard Switches with Brushed Metal Bezels

A30NZ-MG□-□□A

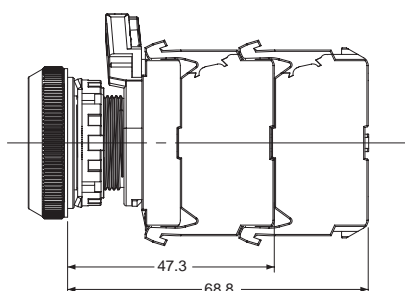


#### Mushroom Switches with Brushed Metal Bezels

A30NZ-MM□-□□A



### Depth with Linked Units





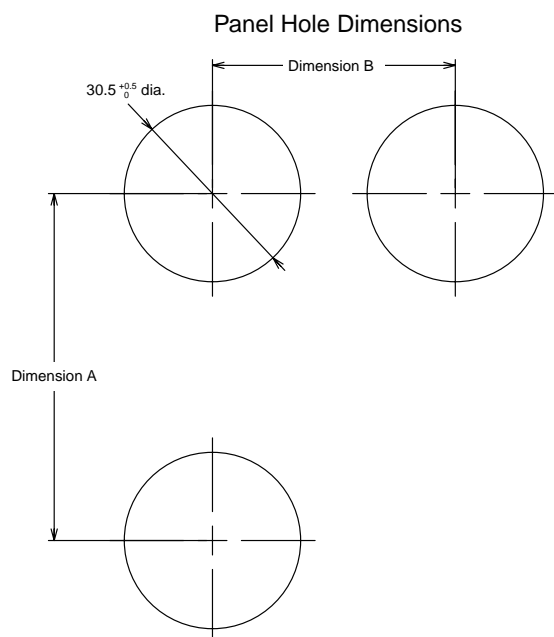
## Safety Precautions

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

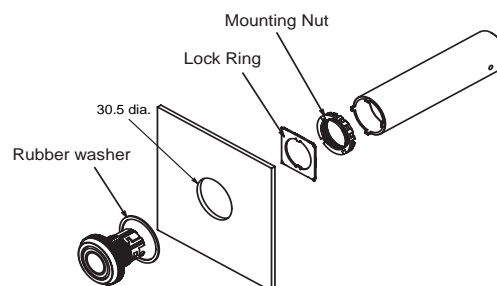
**Note:** The minimum mounting pitch is based on three Contact Blocks in stage 1 with one wire attached to each terminal.  
If you attach two wires or link Units, determine the mounting pitch based on the dimensions diagrams and ease of operation and wiring.

### 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.



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