# OMRON

# Pushbutton Switches

# 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**

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

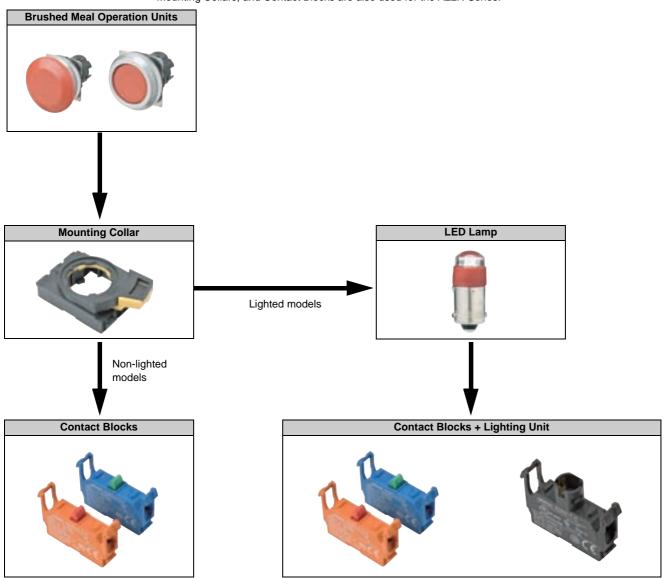
\* The colors when the Switches are lit are for transparent white buttons (code: TW) and yellow LED Lamps (code: Y).



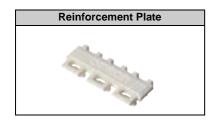
# A30NZ-MDD-DDA

# 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.

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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**

# (1) Type

Code	Туре
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
М	Momentary
А	Alternate

# (4) Button Transparency and Color

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

## (5) Degree of Protection

Code	Description
А	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

# **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**

			Brushed metal, flat		Brushed metal, proje	cted
Bezel material and button shape						
	Swite	ch Action	Momentary	Alternate	Momentary	Alternate
Lighted/ non-lighted	Transparency Color		Model	Model Model		Model
	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
Nen linkted	Opaque	Black	A30NZ-MNM-NBA	A30NZ-MNA-NBA	A30NZ-MPM-NBA	A30NZ-MPA-NBA
Non-lighted	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
	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
1 in hand	Transparent	Yellow	A30NZ-MNM-TYA	A30NZ-MNA-TYA	A30NZ-MPM-TYA	A30NZ-MPA-TYA
Lighted	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

			Brushed metal, full-g	uard	Brushed metal, mush	nroom
Bezel material and button shape		<u> </u>				
	Swite	h Action	Momentary	Alternate	Momentary	Alternate
Lighted/ non-lighted	Transparency	Color	Model	Model	Model	Model
	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
Non-lighted	Opaque	Black	A30NZ-MGM-NBA	A30NZ-MGA-NBA	A30NZ-MMM-NBA	A30NZ-MMA-NBA
Non-lighted	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
	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
liabted	Transparent	Yellow	A30NZ-MGM-TYA	A30NZ-MGA-TYA	A30NZ-MMM-TYA	A30NZ-MMA-TYA
Lighted	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

A	Applied voltage	6 VAC/DC	12 VAC/DC	24 VAC/DC	100/110/120 VAC	200/220/230/240 VAC
Appearance	Color	Model	Model	Model	Model	Model
	Red	A22NZ-L-RA	A22NZ-L-RB	A22NZ-L-RC	A22NZ-L-RD	A22NZ-L-RE
<b>H H</b>	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**



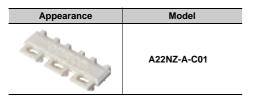
## **Contact Blocks**

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

# **Lighting Units**

Appearance	Applied voltage	Model
4	6 VAC/DC	A22NZ-T-A
	12 VAC/DC	A22NZ-T-B
100	24 VAC/DC	A22NZ-T-C
and the second s	100/110/120 VAC	A22NZ-T-D
19	200/220/230/240 VAC	A22NZ-T-E

## **Reinforcement Plate**



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

# Ratings

# **Contacts (Standard Load)**

Rated insulati	on voltage	600 V				
Rated carry co	urrent	nt 10 A				
Applied voltag	ge	24 V	120 V	240 V	380 V	440 V
AC at 50/60	Resistive load (AC-12)	10 A	10 A	6 A	2A	2 A
Hz	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		
DC	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 ±2°C
(2) Ambient humidity: 65% ±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 ±10%	Approx. 11 mA (red, orange, yellow, or blue)	
6 VAC/DC	6 VAC/DC ±10%	Approx. 5 mA (white or green)	
12 VAC/DC	12 VAC/DC ±10%	Approx. 12 mA (red, orange, yellow, or blue)	
TZ VAC/DC	12 VAC/DC ±10%	Approx. 5 mA (white or green)	
		Approx. 12 mA (red, orange, yellow, or blue)	
24 VAC/DC	24 VAC/DC ±10%	Approx. 5 mA (white or green)	
100 VAC	100 VAC ±10%		
110 VAC	110 VAC ±10%	Approx. 2 mA	
120 VAC	100 to 130 VAC		
200 VAC	200 VAC ±10%		
220 VAC 230 VAC	220 VAC ±10%		
	230 VAC ±10%	Approx. 2 mA	
240 VAC	220 to 250 VAC		

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

# Characteristics

Туре		Pushbutton Switches		
Item		Non-lighted models	Lighted models	
Allowable operating	Mechanical	60 operations/minute max.		
frequency	Electrical	30 operations/minute max.		
Insulation resistance		100 MΩ min. (at 500 VDC)		
Contact resistance		100 mΩ max. (initial value)		
Between terminals of same polarity		2,500 VAC at 50/60 Hz for 1 min		
Dielectric strength	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)		
Mechanical Durability		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 <sup>*1</sup>		-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.

Linking example

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

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

Туре	Pushbutton Switches
Item	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

 Contact Blocks
 Lighting Units

 Pushbutton Switches

 Momentary
 Alternate

 Lighted
 Non-lighted
 Lighted
 Non-lighted

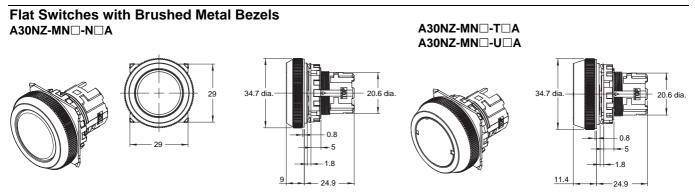
 Operation Unit
 Operation Unit
 Operation Unit
 Operation Unit
 Operation Unit

 Mounting Collar
 Mounting Collar
 Mounting Collar
 Mounting Collar
 Mounting Collar

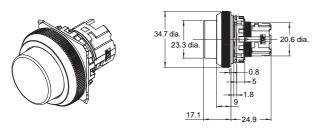
Note: If you increase the number of Contact Blocks, evaluate the Switch under actual working conditions before permanent installation and use the Switch within a number of switching operations that will not adversely affect the Switch's performance.

# Dimensions

# Lighted and Non-lighted Pushbutton Switches

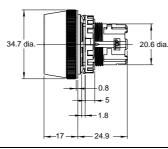


# Projected Switches with Brushed Metal Bezels A30NZ-MP

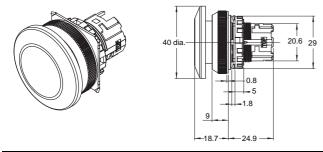


# Full-guard Switches with Brushed Metal Bezels A30NZ-MG

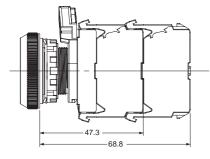




# Mushroom Switches with Brushed Metal Bezels A30NZ-MM\_-



# **Depth with Linked Units**



# **Safety Precautions**

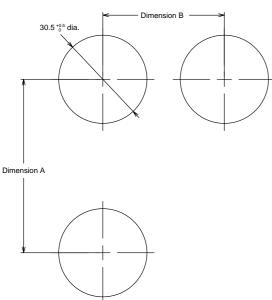
#### Refer to Safety Precautions for All Pushbutton Switches/Indicators. Read the *Safety Precautions* in the A22NN/A22NL datasheet.

# 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.

#### Panel Hole Dimensions



#### **Dimension A**

Wire type	Number of linked Con- tact Blocks	Number of wires per ter- minal	Minimum al- lowable 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

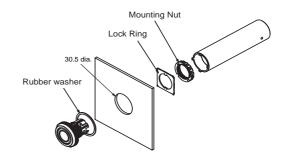
Note: The minimum mounting pitch is based on three Contact Blocks in stage 1 with one wire attached to each terminal. If you attach two wires or link Units, determine the mounting pitch based on the dimensions diagrams and ease of operation and wiring.

#### **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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# Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

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 67081K512X
 701PB580
 7199K101
 810K12910
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 MML21KA3ABK
 MML23KA3AC05K-001

 MML23KW3AA01W
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 8442K3
 8450K1
 860K11911T01A
 861901
 861K11911T01A07
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 A22NZBNANGA
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