

# M22N-BP-TYA-YE Datasheet

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|                              |   |
|------------------------------|---|
| DiGi Electronics Part Number | M22N-BP-TYA-YE-DG                           |
| Manufacturer                 | <a href="#">Omron Automation and Safety</a> |
| Manufacturer Product Number  | M22N-BP-TYA-YE                              |
| Description                  | LED PANEL IND YELLOW 230VAC                 |
| Detailed Description         | LED Panel Indicator Yellow Clear 230V 2mA   |

This model M22N-BP-TYA-YE is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

M22N-BP-TYA-YE

Series:

M22N

Type:

LED

Lens Color:

Yellow

Ratings:

AC

Current:

2mA

Panel Cutout Dimensions:

0.88" (22.30mm)

Lens Style:

Round with Flat Top

Wavelength - Peak:

-

Termination Style:

-

Features:

-

Manufacturer:

Omron Automation and Safety

Product Status:

Active

Lamp Color:

Yellow

Lens Transparency:

Clear

Voltage:

230V

Panel Cutout Shape:

Round

Lens Size:

-

Millicandela Rating:

-

Viewing Angle:

-

Ingress Protection:

IP66, NEMA 4X, 13

Base Product Number:

M22N-BP

## Environmental & Export classification

RoHS Status:

RoHS Compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

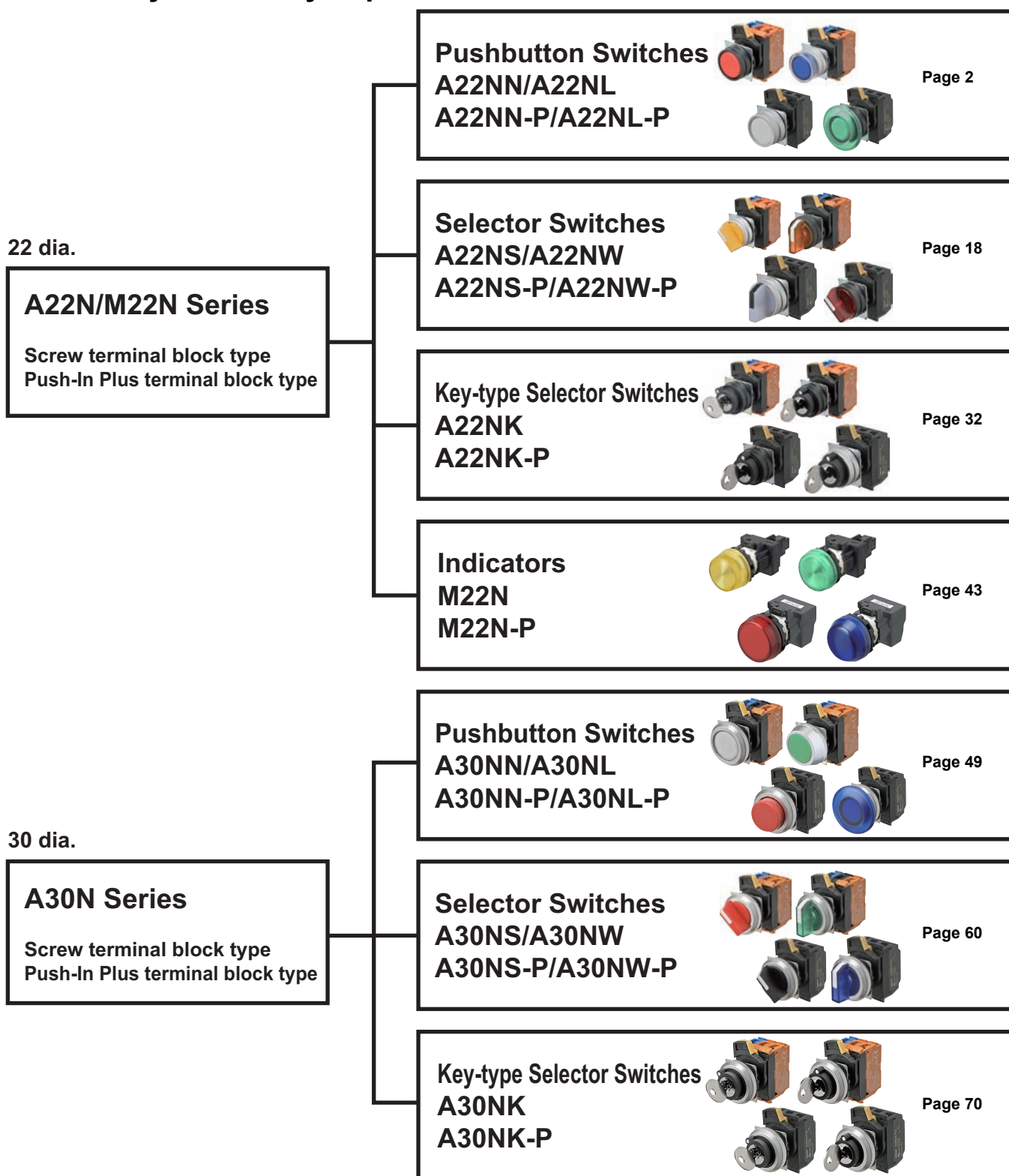
1 (Unlimited)

HTSUS:

8541.41.0000

# Pushbutton Switches/Selector Switches/Indicators A22N/M22N/A30N

Control panel miniaturization through a more compact design and modified wiring direction  
 Addition of Push-In Plus terminal blocks for easy wiring  
 Workability and safety improvements



22 dia.

**A22N/M22N Series**  
 Screw terminal block type  
 Push-In Plus terminal block type

30 dia.

**A30N Series**  
 Screw terminal block type  
 Push-In Plus terminal block type

**Pushbutton Switches**  
 A22NN/A22NL  
 A22NN-P/A22NL-P  **Page 2**


**Selector Switches**  
 A22NS/A22NW  
 A22NS-P/A22NW-P  **Page 18**

**Key-type Selector Switches**  
 A22NK  
 A22NK-P  **Page 32**

**Indicators**  
 M22N  
 M22N-P  **Page 43**

**Pushbutton Switches**  
 A30NN/A30NL  
 A30NN-P/A30NL-P  **Page 49**

**Selector Switches**  
 A30NS/A30NW  
 A30NS-P/A30NW-P  **Page 60**

**Key-type Selector Switches**  
 A30NK  
 A30NK-P  **Page 70**

# Pushbutton Switches A22NN/A22NL

**22-mm dia. Pushbutton Switches**  
Control panel miniaturization through a more compact design and modified wiring direction.  
**Addition of Push-In Plus terminal blocks for easy wiring.**



### Easy to Use

- Improved wiring visibility through to a modified wiring direction. (Push-In Plus terminal block type)
- Screw terminal block structure is compatible with round crimp terminals. (Screw terminal block type)
- The terminals can be secured even when a contact block is mounted. (Screw terminal block type)
- Contact Blocks can be attached in any direction for easy assembly.

### Miniaturization


- No need for extra lateral space because of the modified wiring direction. (Push-In Plus terminal block type)
- Compact design.
- A22NL (lighted models) are the same size as A22NN (non-lighted models).

### Safety

- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

### Product Lineup

- Meet global safety standards.
- Can be installed in two types of panel hole dimensions: 22.3 and 25.5 dia.
- The buttons and bezels come in a wide variety of colors, shapes, and materials.
- Standard-feature degree of protection: IP66, NEMA 4X, and NEMA 13.

 Refer to *Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions* on page 85.









## Button Colors

| Non-lighted Switches | A22NN-□□□-N□<br>Opaque      |              | Red   | Green   | Yellow  | White  | Blue  | Black   |   |
|----------------------|-----------------------------|--------------|---|---|---|--|---|---|---|
|                      |                             |              |  |  |  |  |  |  |   |
| Lighted Switches     | A22NL-□□□-T□<br>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).

Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

# List of Models

| Screw Terminal Blocks/Push-In Plus Terminal Blocks   |   |
|--|---|
| Plastic bezels   | Brushed metal bezels  |
| A22N□-BN   | A22N□-MN  |
| Flat<br>        | Flat<br>        |
| Projected<br>   | Projected<br>   |
| Full guard<br> | Full guard<br> |
| Mushroom<br>  | Mushroom<br>  |

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-Type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-Type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# A22NN/A22NL

## Model Number Structure

### Model Number Legend

----- Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).

For information on combinations, refer to *Ordering Information* on pages 5 to 8.

### Model Numbers for Sets

A 2 2 N <sup>(1)</sup> L - <sup>(2)</sup> BN <sup>(3)</sup> M - <sup>(4)</sup> TR <sup>(5)</sup> A - <sup>(6)</sup> G <sup>(7)</sup> 100 - <sup>(8)</sup> R <sup>(9)</sup> B

#### (1) Type

| Code | Description |
|------|-------------|
| N    | Non-lighted |
| L    | Lighted     |

#### (2) Bezel Material and Button Shape

| Code | Bezel material | Button shape |
|------|----------------|--------------|
| BN   | Plastic        | Flat         |
| BP   | Plastic        | Projected    |
| BG   | Plastic        | Full guard   |
| BM   | Plastic        | Mushroom     |
| 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 and (8) LED Lamp Color

| Lighted/non-lighted | Code (4) | Code (8) | Transparency | Button color | LED lamp color |
|---------------------|----------|----------|--------------|--------------|----------------|
| Non-lighted         | NR       | N        | Opaque       | Red          | ---            |
|                     | NG       | N        | Opaque       | Green        |                |
|                     | NY       | N        | Opaque       | Yellow       |                |
|                     | NW       | N        | Opaque       | White        |                |
|                     | NA       | N        | Opaque       | Blue         |                |
|                     | NB       | N        | Opaque       | Black        |                |
| Lighted             | TR       | R        | Transparent  | Red          | Red            |
|                     | TG       | G        | Transparent  | Green        | Green          |
|                     | TY       | Y        | Transparent  | Yellow       | Yellow         |
|                     | TW       | W        | Transparent  | White        | White          |
|                     | TA       | A        | Transparent  | Blue         | Blue           |
|                     | TO       | O        | Transparent  | Orange       | Orange         |
|                     | TW       | Y        | Transparent  | White *      | Yellow         |

\* The color is opaque white when the Switch is lit.

#### (5) Degree of Protection

| Code | Description                          |
|------|--------------------------------------|
| A    | Conforming to IP66, NEMA 4X, NEMA 13 |

#### (6) Contacts and Terminals Specifications

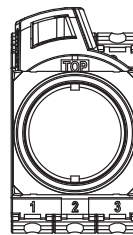
| Code | Specification                       |
|------|-------------------------------------|
| G    | General/Screw terminal block        |
| P    | General/Push-In Plus Terminal Block |

#### (7) Contacts

| Code | Contact Blocks |    | Unit position |     |     |         |               |     |
|------|----------------|----|---------------|-----|-----|---------|---------------|-----|
|      |                |    | Non-lighted   |     |     | Lighted |               |     |
|      | NO             | NC | 1             | 2   | 3   | 1       | 2             | 3   |
| 100  | 1              | 0  | NO            | --- | --- | NO      | Lighting Unit | --- |
| 002  | 0              | 1  | ---           | --- | NC  | ---     | Lighting Unit | NC  |
| 101  | 2              | 0  | NO            | --- | NO  | NO      | Lighting Unit | NO  |
| 102  | 1              | 1  | NO            | --- | NC  | NO      | Lighting Unit | NC  |
| 202  | 0              | 2  | NC            | --- | NC  | NC      | Lighting Unit | NC  |
| 111  | 3              | 0  | NO            | NO  | NO  |         |               |     |
| 112  | 2              | 1  | NO            | NO  | NC  |         |               |     |
| 122  | 1              | 2  | NO            | NC  | NC  |         |               |     |
| 222  | 0              | 3  | NC            | NC  | NC  |         |               |     |

**Note:** 1. NO (blue): Normally open, NC (orange): Normally closed.

2. Refer to the following figure for Unit positions.



#### (9) LED Lamp Voltage

| Code | LED Lamp voltage    |
|------|---------------------|
| N    | Non-lighted         |
| A    | 6 VAC/DC            |
| B    | 12 VAC/DC           |
| C    | 24 VAC/DC           |
| D    | 100/110/120 VAC     |
| E    | 200/220/230/240 VAC |



- Specifications: Refer to page 12.
- Dimensions: Refer to pages 14 to 16.

- Precautions for correct use: Refer to pages 85 to 96.
- Accessories and tools: Refer to pages 80 to 81.



## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).

### Non-lighted, Flat Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
| Plastic bezels<br>       | 1        | A22NN-BNM-(4)(4)A-G(7)(7)(7)-NN   | A22NN-BNA-(4)(4)A-G(7)(7)(7)-NN | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A22NN-BNM-(4)(4)A-P(7)(7)(7)-NN   | A22NN-BNA-(4)(4)A-P(7)(7)(7)-NN |  |                          |
|   | 2        | A22NN-BNM-(4)(4)A-G(7)(7)(7)-NN   | A22NN-BNA-(4)(4)A-G(7)(7)(7)-NN |  | 101<br>102<br>202        |
|   |          | A22NN-BNM-(4)(4)A-P(7)(7)(7)-NN   | A22NN-BNA-(4)(4)A-P(7)(7)(7)-NN |  |                          |
|   | 3        | A22NN-BNM-(4)(4)A-G(7)(7)(7)-NN   | A22NN-BNA-(4)(4)A-G(7)(7)(7)-NN |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-BNM-(4)(4)A-P(7)(7)(7)-NN   | A22NN-BNA-(4)(4)A-P(7)(7)(7)-NN |  |                          |
| Brushed metal bezels<br> | 1        | A22NN-MNM-(4)(4)A-G(7)(7)(7)-NN   | A22NN-MNA-(4)(4)A-G(7)(7)(7)-NN |  | 100<br>002               |
|   |          | A22NN-MNM-(4)(4)A-P(7)(7)(7)-NN   | A22NN-MNA-(4)(4)A-P(7)(7)(7)-NN |  |                          |
|   | 2        | A22NN-MNM-(4)(4)A-G(7)(7)(7)-NN   | A22NN-MNA-(4)(4)A-G(7)(7)(7)-NN |  | 101<br>102<br>202        |
|   |          | A22NN-MNM-(4)(4)A-P(7)(7)(7)-NN   | A22NN-MNA-(4)(4)A-P(7)(7)(7)-NN |  |                          |
|   | 3        | A22NN-MNM-(4)(4)A-G(7)(7)(7)-NN   | A22NN-MNA-(4)(4)A-G(7)(7)(7)-NN |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-MNM-(4)(4)A-P(7)(7)(7)-NN   | A22NN-MNA-(4)(4)A-P(7)(7)(7)-NN |  |                          |

### Lighted, Flat Switches

| Appearance  | Contacts | Momentary action (self-resetting)   | Alternate action (self-holding)     | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------|-------------------------------------|-------------------------------------|---|-----------------------|---|---|
|   |          | Model                               | Model                               |   |                       |   |   |
| Plastic bezels<br>       | 1        | A22NL-BNM-(4)(4)A-G(7)(7)(7)-(8)(9) | A22NL-BNA-(4)(4)A-G(7)(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |          | A22NL-BNM-(4)(4)A-P(7)(7)(7)-(8)(9) | A22NL-BNA-(4)(4)A-P(7)(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A22NL-BNM-(4)(4)A-G(7)(7)(7)-(8)(9) | A22NL-BNA-(4)(4)A-G(7)(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A22NL-BNM-(4)(4)A-P(7)(7)(7)-(8)(9) | A22NL-BNA-(4)(4)A-P(7)(7)(7)-(8)(9) |   |                       |   |   |
| Brushed metal bezels<br> | 1        | A22NL-MNM-(4)(4)A-G(7)(7)(7)-(8)(9) | A22NL-MNA-(4)(4)A-G(7)(7)(7)-(8)(9) | 100<br>002  |                       |   |   |
|   |          | A22NL-MNM-(4)(4)A-P(7)(7)(7)-(8)(9) | A22NL-MNA-(4)(4)A-P(7)(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A22NL-MNM-(4)(4)A-G(7)(7)(7)-(8)(9) | A22NL-MNA-(4)(4)A-G(7)(7)(7)-(8)(9) | 101<br>102<br>202   |                       |   |   |
|   |          | A22NL-MNM-(4)(4)A-P(7)(7)(7)-(8)(9) | A22NL-MNA-(4)(4)A-P(7)(7)(7)-(8)(9) |   |                       |   |   |

**Note:** Normally, the Button and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Button and yellow LED. A22N□-□□□-TWA-□□□□-Y□

■ Subassemblies: Refer to pages 9 to 11 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 12.  
 ■ Dimensions: Refer to pages 14 to 16.  
 ■ Accessories and tools: Refer to pages 80 to 81.


Pushbutton Switches  
 A22N  
 Selector Switches  
 A22N  
 Key-Type Selector Switches  
 A22N  
 Indicators  
 M22N  
 Pushbutton Switches  
 A30N  
 Selector Switches  
 A30N  
 Key-Type Selector Switches  
 A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

# A22NN/A22NL



## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).

### Non-lighted, Projected Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
|  | 1        | A22NN-BPM-(4)(4)A-G(7)(7)-NN      | A22NN-BPA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A22NN-BPM-(4)(4)A-P(7)(7)-NN      | A22NN-BPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A22NN-BPM-(4)(4)A-G(7)(7)-NN      | A22NN-BPA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A22NN-BPM-(4)(4)A-P(7)(7)-NN      | A22NN-BPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A22NN-BPM-(4)(4)A-G(7)(7)-NN      | A22NN-BPA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-BPM-(4)(4)A-P(7)(7)-NN      | A22NN-BPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|  | 1        | A22NN-MPM-(4)(4)A-G(7)(7)-NN      | A22NN-MPA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A22NN-MPM-(4)(4)A-P(7)(7)-NN      | A22NN-MPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A22NN-MPM-(4)(4)A-G(7)(7)-NN      | A22NN-MPA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A22NN-MPM-(4)(4)A-P(7)(7)-NN      | A22NN-MPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A22NN-MPM-(4)(4)A-G(7)(7)-NN      | A22NN-MPA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-MPM-(4)(4)A-P(7)(7)-NN      | A22NN-MPA-(4)(4)A-P(7)(7)-NN    |  |                          |

### Lighted, Projected Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------|-----------------------------------|----------------------------------|---|-----------------------|---|---|
|   |          | Model                             | Model                            |   |                       |   |   |
|  | 1        | A22NL-BPM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-BPA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |          | A22NL-BPM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-BPA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A22NL-BPM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-BPA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A22NL-BPM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-BPA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|  | 1        | A22NL-MPM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-MPA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |          | A22NL-MPM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-MPA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A22NL-MPM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-MPA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A22NL-MPM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-MPA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |

**Note:** Normally, the Button and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Button and yellow LED. A22N□-□□□-TWA-□□□□-Y□



■ Subassemblies: Refer to pages 9 to 11 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 12.  
 ■ Dimensions: Refer to pages 14 to 16.  
 ■ Accessories and tools: Refer to pages 80 to 81.



## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).

### Non-lighted, Full-guard Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
|  | 1        | A22NN-BGM-(4)(4)A-G(7)(7)-NN      | A22NN-BGA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A22NN-BGM-(4)(4)A-P(7)(7)-NN      | A22NN-BGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A22NN-BGM-(4)(4)A-G(7)(7)-NN      | A22NN-BGA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A22NN-BGM-(4)(4)A-P(7)(7)-NN      | A22NN-BGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A22NN-BGM-(4)(4)A-G(7)(7)-NN      | A22NN-BGA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-BGM-(4)(4)A-P(7)(7)-NN      | A22NN-BGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|  | 1        | A22NN-MGM-(4)(4)A-G(7)(7)-NN      | A22NN-MGA-(4)(4)A-G(7)(7)-NN    |  | 100<br>002               |
|   |          | A22NN-MGM-(4)(4)A-P(7)(7)-NN      | A22NN-MGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A22NN-MGM-(4)(4)A-G(7)(7)-NN      | A22NN-MGA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A22NN-MGM-(4)(4)A-P(7)(7)-NN      | A22NN-MGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A22NN-MGM-(4)(4)A-G(7)(7)-NN      | A22NN-MGA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-MGM-(4)(4)A-P(7)(7)-NN      | A22NN-MGA-(4)(4)A-P(7)(7)-NN    |  |                          |

### Lighted, Full-guard Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------|-----------------------------------|----------------------------------|---|-----------------------|---|---|
|   |          | Model                             | Model                            |   |                       |   |   |
|  | 1        | A22NL-BGM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-BGA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |          | A22NL-BGM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-BGA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A22NL-BGM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-BGA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A22NL-BGM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-BGA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|  | 1        | A22NL-MGM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-MGA-(4)(4)A-G(7)(7)-(8)(9) |   | 100<br>002            |   |   |
|   |          | A22NL-MGM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-MGA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A22NL-MGM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-MGA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A22NL-MGM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-MGA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |

**Note:** Normally, the Button and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Button and yellow LED. A22N□-□□□-TWA-□□□□-Y□

■ Subassemblies: Refer to pages 9 to 11 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 12.  
 ■ Dimensions: Refer to pages 14 to 16.  
 ■ Accessories and tools: Refer to pages 80 to 81.



Pushbutton Switches  
**A22N**  
 Selector Switches  
**A22N**  
 Key-type Selector Switches  
**A22N**  
 Indicators  
**M22N**  
 Pushbutton Switches  
**A30N**  
 Selector Switches  
**A30N**  
 Key-type Selector Switches  
**A30N**  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

# A22NN/A22NL



## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).

### Non-lighted, Mushroom Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
| <br>Plastic bezels       | 1        | A22NN-BMM-(4)(4)A-G(7)(7)-NN      | A22NN-BMA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A22NN-BMM-(4)(4)A-P(7)(7)-NN      | A22NN-BMA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A22NN-BMM-(4)(4)A-G(7)(7)-NN      | A22NN-BMA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A22NN-BMM-(4)(4)A-P(7)(7)-NN      | A22NN-BMA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A22NN-BMM-(4)(4)A-G(7)(7)-NN      | A22NN-BMA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-BMM-(4)(4)A-P(7)(7)-NN      | A22NN-BMA-(4)(4)A-P(7)(7)-NN    |  |                          |
| <br>Brushed metal bezels | 1        | A22NN-MMM-(4)(4)A-G(7)(7)-NN      | A22NN-MMA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A22NN-MMM-(4)(4)A-P(7)(7)-NN      | A22NN-MMA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A22NN-MMM-(4)(4)A-G(7)(7)-NN      | A22NN-MMA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A22NN-MMM-(4)(4)A-P(7)(7)-NN      | A22NN-MMA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A22NN-MMM-(4)(4)A-G(7)(7)-NN      | A22NN-MMA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A22NN-MMM-(4)(4)A-P(7)(7)-NN      | A22NN-MMA-(4)(4)A-P(7)(7)-NN    |  |                          |

### Lighted, Mushroom Switches

| Appearance  | Contacts  | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts            | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |   |            |   |   |
|---|---|-----------------------------------|----------------------------------|---|----------------------------------|---|---|---|------------|---|---|
|   |   | Model                             | Model                            |   |                                  |   |   |   |            |   |   |
| <br>Plastic bezels | 1   | A22NL-BMM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-BMA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002                       | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |   |            |   |   |
|   |   | A22NL-BMM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-BMA-(4)(4)A-P(7)(7)-(8)(9) |   |                                  |   |   |   |            |   |   |
|   | 2   | A22NL-BMM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-BMA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202                |   |   |   |            |   |   |
|   |   | A22NL-BMM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-BMA-(4)(4)A-P(7)(7)-(8)(9) |   |                                  |   |   |   |            |   |   |
|   | <br>Brushed metal bezels | 1                                 | A22NL-MMM-(4)(4)A-G(7)(7)-(8)(9) |   | A22NL-MMA-(4)(4)A-G(7)(7)-(8)(9) |   |   | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002 | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |   |                                   | A22NL-MMM-(4)(4)A-P(7)(7)-(8)(9) |   | A22NL-MMA-(4)(4)A-P(7)(7)-(8)(9) |   |   |   |            |   |   |
| 2   |   | A22NL-MMM-(4)(4)A-G(7)(7)-(8)(9)  | A22NL-MMA-(4)(4)A-G(7)(7)-(8)(9) | 101<br>102<br>202   |                                  |   |   |   |            |   |   |
|   |   | A22NL-MMM-(4)(4)A-P(7)(7)-(8)(9)  | A22NL-MMA-(4)(4)A-P(7)(7)-(8)(9) |   |                                  |   |   |   |            |   |   |

**Note:** Normally, the Button and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Button and yellow LED. A22N□-□□□-TWA-□□□□-Y□

■ Subassemblies: Refer to pages 9 to 11 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 12.  
 ■ Dimensions: Refer to pages 14 to 16.  
 ■ Accessories and tools: Refer to pages 80 to 81.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

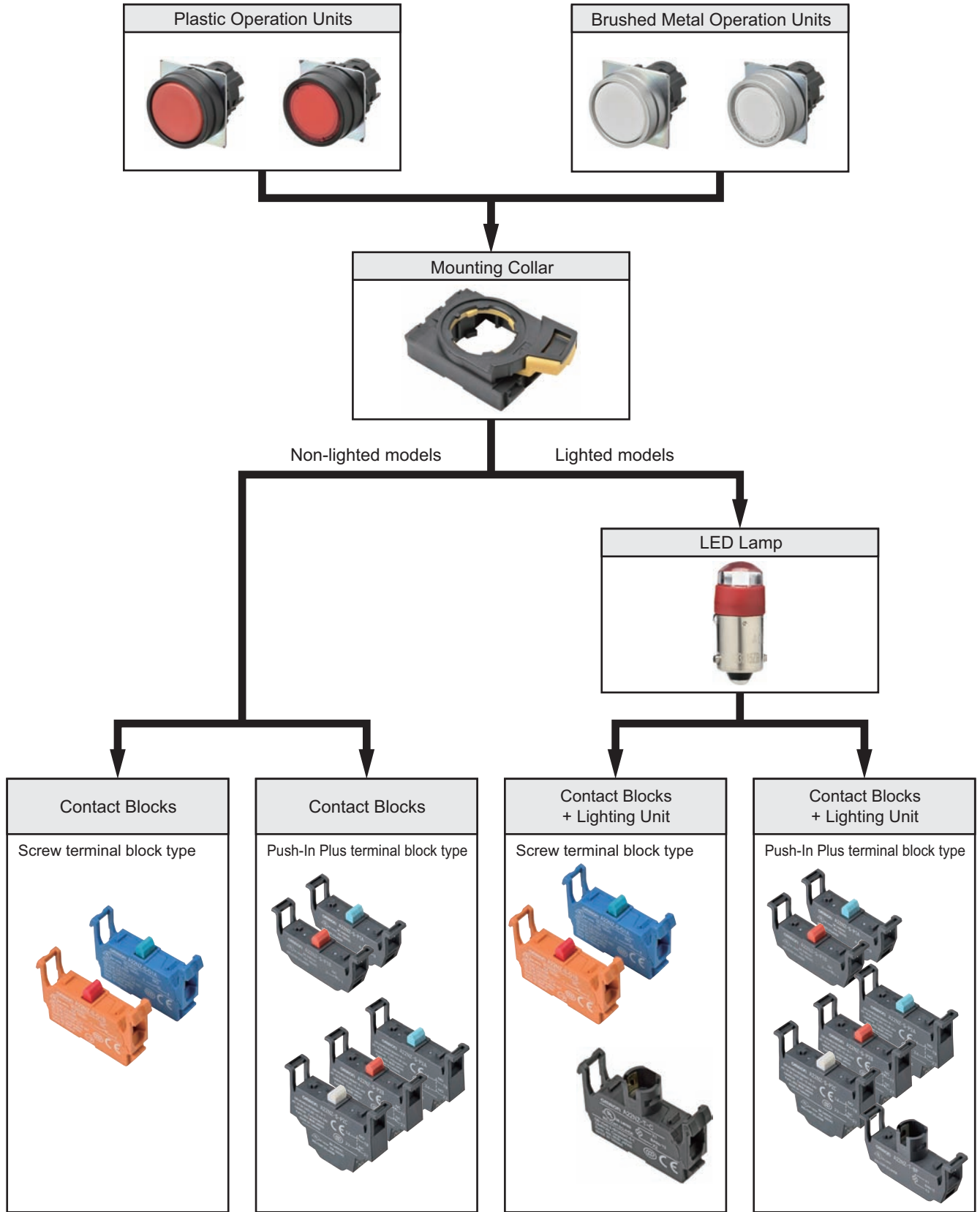
Subassemblies (Common)

Accessories and Tools

Safety Precautions

# Ordering Information

**Switch Structure** - - - You can order Operation Units, LED Lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

- Model numbers of sets: Refer to pages 5 to 8.
- Subassemblies (Common): Refer to page 78.

- Specifications: Refer to page 12.
- Dimensions: Refer to pages 14 to 16.
- Accessories and tools: Refer to pages 80 to 81.

# A22NN/A22NL

## Ordering Information

### Subassemblies

-----You can order Operation Units, LED Lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.

### Operation Units

| Bezel material and button shape |              |        | Plastic, flat |               | Plastic, projected |               |
|---------------------------------|--------------|--------|---------------|---------------|--------------------|---------------|
|                                 |              |        | Switch Action |               | Switch Action      |               |
| Lighted/<br>non-lighted         | Transparency | Color  | Momentary     | Alternate     | Momentary          | Alternate     |
|                                 |              |        | Model         | Model         | Model              | Model         |
| Non-lighted                     | Opaque       | Red    | A22NZ-BNM-NRA | A22NZ-BNA-NRA | A22NZ-BPM-NRA      | A22NZ-BPA-NRA |
|                                 | Opaque       | Green  | A22NZ-BNM-NGA | A22NZ-BNA-NGA | A22NZ-BPM-NGA      | A22NZ-BPA-NGA |
|                                 | Opaque       | Yellow | A22NZ-BNM-NYA | A22NZ-BNA-NYA | A22NZ-BPM-NYA      | A22NZ-BPA-NYA |
|                                 | Opaque       | White  | A22NZ-BNM-NWA | A22NZ-BNA-NWA | A22NZ-BPM-NWA      | A22NZ-BPA-NWA |
|                                 | Opaque       | Blue   | A22NZ-BNM-NAA | A22NZ-BNA-NAA | A22NZ-BPM-NAA      | A22NZ-BPA-NAA |
|                                 | Opaque       | Black  | A22NZ-BNM-NBA | A22NZ-BNA-NBA | A22NZ-BPM-NBA      | A22NZ-BPA-NBA |
| Lighted                         | Transparent  | Red    | A22NZ-BNM-TRA | A22NZ-BNA-TRA | A22NZ-BPM-TRA      | A22NZ-BPA-TRA |
|                                 | Transparent  | Green  | A22NZ-BNM-TGA | A22NZ-BNA-TGA | A22NZ-BPM-TGA      | A22NZ-BPA-TGA |
|                                 | Transparent  | Yellow | A22NZ-BNM-TYA | A22NZ-BNA-TYA | A22NZ-BPM-TYA      | A22NZ-BPA-TYA |
|                                 | Transparent  | White  | A22NZ-BNM-TWA | A22NZ-BNA-TWA | A22NZ-BPM-TWA      | A22NZ-BPA-TWA |
|                                 | Transparent  | Blue   | A22NZ-BNM-TAA | A22NZ-BNA-TAA | A22NZ-BPM-TAA      | A22NZ-BPA-TAA |
|                                 | Transparent  | Orange | A22NZ-BNM-TOA | A22NZ-BNA-TOA | A22NZ-BPM-TOA      | A22NZ-BPA-TOA |

| Bezel material and button shape |              |        | Plastic, full-guard |               | Plastic, mushroom |               |
|---------------------------------|--------------|--------|---------------------|---------------|-------------------|---------------|
|                                 |              |        | Switch Action       |               | Switch Action     |               |
| Lighted/<br>non-lighted         | Transparency | Color  | Momentary           | Alternate     | Momentary         | Alternate     |
|                                 |              |        | Model               | Model         | Model             | Model         |
| Non-lighted                     | Opaque       | Red    | A22NZ-BGM-NRA       | A22NZ-BGA-NRA | A22NZ-BMM-NRA     | A22NZ-BMA-NRA |
|                                 | Opaque       | Green  | A22NZ-BGM-NGA       | A22NZ-BGA-NGA | A22NZ-BMM-NGA     | A22NZ-BMA-NGA |
|                                 | Opaque       | Yellow | A22NZ-BGM-NYA       | A22NZ-BGA-NYA | A22NZ-BMM-NYA     | A22NZ-BMA-NYA |
|                                 | Opaque       | White  | A22NZ-BGM-NWA       | A22NZ-BGA-NWA | A22NZ-BMM-NWA     | A22NZ-BMA-NWA |
|                                 | Opaque       | Blue   | A22NZ-BGM-NAA       | A22NZ-BGA-NAA | A22NZ-BMM-NAA     | A22NZ-BMA-NAA |
|                                 | Opaque       | Black  | A22NZ-BGM-NBA       | A22NZ-BGA-NBA | A22NZ-BMM-NBA     | A22NZ-BMA-NBA |
| Lighted                         | Transparent  | Red    | A22NZ-BGM-TRA       | A22NZ-BGA-TRA | A22NZ-BMM-TRA     | A22NZ-BMA-TRA |
|                                 | Transparent  | Green  | A22NZ-BGM-TGA       | A22NZ-BGA-TGA | A22NZ-BMM-TGA     | A22NZ-BMA-TGA |
|                                 | Transparent  | Yellow | A22NZ-BGM-TYA       | A22NZ-BGA-TYA | A22NZ-BMM-TYA     | A22NZ-BMA-TYA |
|                                 | Transparent  | White  | A22NZ-BGM-TWA       | A22NZ-BGA-TWA | A22NZ-BMM-TWA     | A22NZ-BMA-TWA |
|                                 | Transparent  | Blue   | A22NZ-BGM-TAA       | A22NZ-BGA-TAA | A22NZ-BMM-TAA     | A22NZ-BMA-TAA |
|                                 | Transparent  | Orange | A22NZ-BGM-TOA       | A22NZ-BGA-TOA | A22NZ-BMM-TOA     | A22NZ-BMA-TOA |

■ Model numbers of sets: Refer to pages 5 to 8.  
 ■ Subassemblies (Common): Refer to page 78.


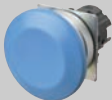
■ Specifications: Refer to page 12.  
 ■ Dimensions: Refer to pages 14 to 16.  
 ■ Accessories and tools: Refer to pages 80 to 81.

## Ordering Information

### Subassemblies

-----You can order Operation Units, LED Lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.

| Bezel material and button shape |               |        | Brushed metal, flat   |   | Brushed metal, projected  |   |
|---------------------------------|---------------|--------|---|---|---|---|
|                                 |               |        |  |  |  |  |
| Lighted/<br>non-lighted         | Switch Action |        | Momentary   | Alternate   | Momentary   | Alternate   |
|                                 | Transparency  | Color  | Model   | Model   | Model   | Model   |
| Non-lighted                     | Opaque        | Red    | A22NZ-MNM-NRA   | A22NZ-MNA-NRA   | A22NZ-MPM-NRA   | A22NZ-MPA-NRA   |
|                                 | Opaque        | Green  | A22NZ-MNM-NGA   | A22NZ-MNA-NGA   | A22NZ-MPM-NGA   | A22NZ-MPA-NGA   |
|                                 | Opaque        | Yellow | A22NZ-MNM-NYA   | A22NZ-MNA-NYA   | A22NZ-MPM-NYA   | A22NZ-MPA-NYA   |
|                                 | Opaque        | White  | A22NZ-MNM-NWA   | A22NZ-MNA-NWA   | A22NZ-MPM-NWA   | A22NZ-MPA-NWA   |
|                                 | Opaque        | Blue   | A22NZ-MNM-NAA   | A22NZ-MNA-NAA   | A22NZ-MPM-NAA   | A22NZ-MPA-NAA   |
|                                 | Opaque        | Black  | A22NZ-MNM-NBA   | A22NZ-MNA-NBA   | A22NZ-MPM-NBA   | A22NZ-MPA-NBA   |
| Lighted                         | Transparent   | Red    | A22NZ-MNM-TRA   | A22NZ-MNA-TRA   | A22NZ-MPM-TRA   | A22NZ-MPA-TRA   |
|                                 | Transparent   | Green  | A22NZ-MNM-TGA   | A22NZ-MNA-TGA   | A22NZ-MPM-TGA   | A22NZ-MPA-TGA   |
|                                 | Transparent   | Yellow | A22NZ-MNM-TYA   | A22NZ-MNA-TYA   | A22NZ-MPM-TYA   | A22NZ-MPA-TYA   |
|                                 | Transparent   | White  | A22NZ-MNM-TWA   | A22NZ-MNA-TWA   | A22NZ-MPM-TWA   | A22NZ-MPA-TWA   |
|                                 | Transparent   | Blue   | A22NZ-MNM-TAA   | A22NZ-MNA-TAA   | A22NZ-MPM-TAA   | A22NZ-MPA-TAA   |
|                                 | Transparent   | Orange | A22NZ-MNM-TOA   | A22NZ-MNA-TOA   | A22NZ-MPM-TOA   | A22NZ-MPA-TOA   |

| Bezel material and button shape |               |        | Brushed metal, full-guard   |   | Brushed metal, mushroom   |   |
|---------------------------------|---------------|--------|---|---|---|---|
|                                 |               |        |  |  |  |  |
| Lighted/<br>non-lighted         | Switch Action |        | Momentary   | Alternate   | Momentary   | Alternate   |
|                                 | Transparency  | Color  | Model   | Model   | Model   | Model   |
| Non-lighted                     | Opaque        | Red    | A22NZ-MGM-NRA   | A22NZ-MGA-NRA   | A22NZ-MMM-NRA   | A22NZ-MMA-NRA   |
|                                 | Opaque        | Green  | A22NZ-MGM-NGA   | A22NZ-MGA-NGA   | A22NZ-MMM-NGA   | A22NZ-MMA-NGA   |
|                                 | Opaque        | Yellow | A22NZ-MGM-NYA   | A22NZ-MGA-NYA   | A22NZ-MMM-NYA   | A22NZ-MMA-NYA   |
|                                 | Opaque        | White  | A22NZ-MGM-NWA   | A22NZ-MGA-NWA   | A22NZ-MMM-NWA   | A22NZ-MMA-NWA   |
|                                 | Opaque        | Blue   | A22NZ-MGM-NAA   | A22NZ-MGA-NAA   | A22NZ-MMM-NAA   | A22NZ-MMA-NAA   |
|                                 | Opaque        | Black  | A22NZ-MGM-NBA   | A22NZ-MGA-NBA   | A22NZ-MMM-NBA   | A22NZ-MMA-NBA   |
| Lighted                         | Transparent   | Red    | A22NZ-MGM-TRA   | A22NZ-MGA-TRA   | A22NZ-MMM-TRA   | A22NZ-MMA-TRA   |
|                                 | Transparent   | Green  | A22NZ-MGM-TGA   | A22NZ-MGA-TGA   | A22NZ-MMM-TGA   | A22NZ-MMA-TGA   |
|                                 | Transparent   | Yellow | A22NZ-MGM-TYA   | A22NZ-MGA-TYA   | A22NZ-MMM-TYA   | A22NZ-MMA-TYA   |
|                                 | Transparent   | White  | A22NZ-MGM-TWA   | A22NZ-MGA-TWA   | A22NZ-MMM-TWA   | A22NZ-MMA-TWA   |
|                                 | Transparent   | Blue   | A22NZ-MGM-TAA   | A22NZ-MGA-TAA   | A22NZ-MMM-TAA   | A22NZ-MMA-TAA   |
|                                 | Transparent   | Orange | A22NZ-MGM-TOA   | A22NZ-MGA-TOA   | A22NZ-MMM-TOA   | A22NZ-MMA-TOA   |

- Model numbers of sets: Refer to pages 5 to 8.
- Subassemblies (Common): Refer to page 78.

- Specifications: Refer to page 12.
- Dimensions: Refer to pages 14 to 16.
- Accessories and tools: Refer to pages 80 to 81.

# A22NN/A22NL

## Specifications

### Certified Safety Standard Ratings

**UL 508 (File No. E76675), CSA C22.2 No.14**

6 A 240 VAC, 10 A 120 VAC

**TÜV (EN60947-5-1)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**CCC (GB/T14048.5)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

### Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

### Ratings

#### Contacts (Standard Load)

| Rated insulation voltage |                        | 600 V |       |        |       |       |
|--------------------------|------------------------|-------|-------|--------|-------|-------|
| Rated carry current      |                        | 10 A  |       |        |       |       |
| Rated 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 ±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)<br>Approx. 5 mA (white or green) |
| 12 VAC/DC     | 12 VAC/DC ±10%  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 24 VAC/DC     | 24 VAC/DC ±10%  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 100 VAC       | 100 VAC ±10%    | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 110 VAC       | 110 VAC ±10%    |   |
| 120 VAC       | 100 to 130 VAC  |   |
| 200 VAC       | 200 VAC ±10%    | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 220 VAC       | 220 VAC ±10%    |   |
| 230 VAC       | 230 VAC ±10%    |   |
| 240 VAC       | 220 to 250 VAC  |   |

# Specifications

## 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)  | Not available for lighting units |
| Contact resistance                                |                                    | 100 mΩ max. (initial value)   |                                  |
| Dielectric strength                               | Between terminals of same polarity | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  | Not available for lighting units |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  |                                  |
| 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.<br>Alternate action: 500,000 operations min.          |                                  |
|   | Electrical                         | 500,000 operations min.<br>(250 VAC, 3 A, with an inductive load having power factor cos θ = 0.4) |                                  |
| 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>                |                                    | Conforming to IP66, NEMA 4X, NEMA13   |                                  |
| Electric shock protection class                   |                                    | Class II  |                                  |
| PTI (tracking characteristic)                     |                                    | 175   |                                  |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)  |                                  |
| Weight  |                                    | Approx. 50 g (for 1NC/1NO)  | Approx. 65 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 (Screw terminal block type)

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.

# A22NN/A22NL

## Dimensions

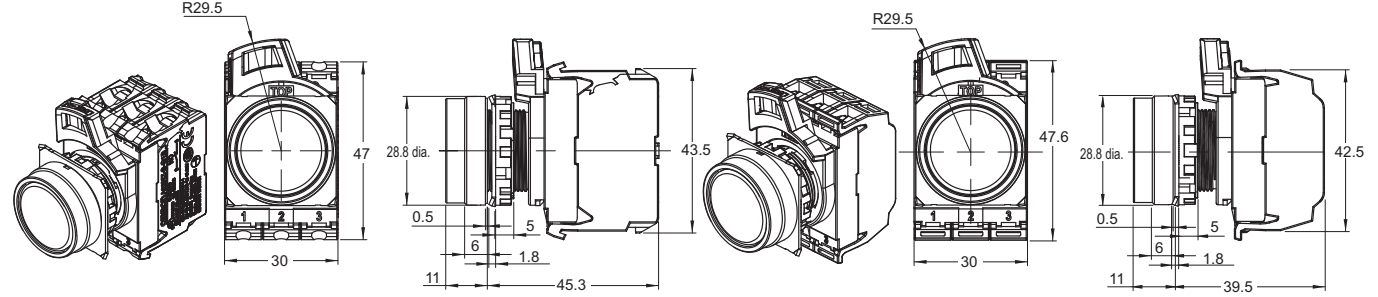
(Unit: mm)

### Lighted and Non-lighted Pushbutton Switches

#### Flat Switches with Plastic Bezels

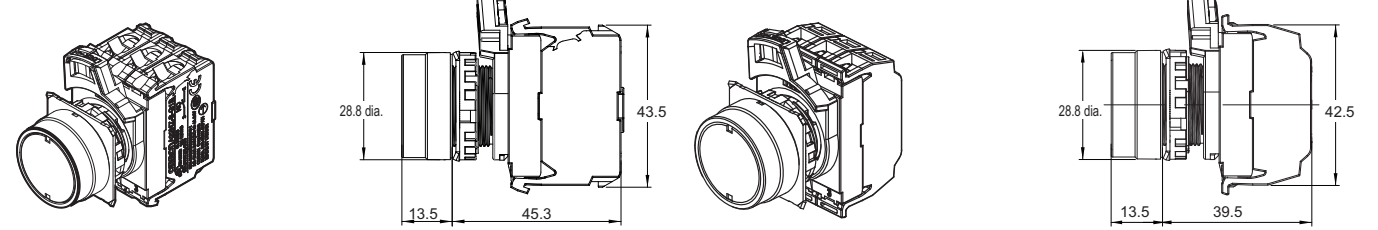
A22NN-BN□-N□A-G□-NN

A22NN-BN□-N□A-P□-NN



A22NL-BN□-T□A-G□-□□

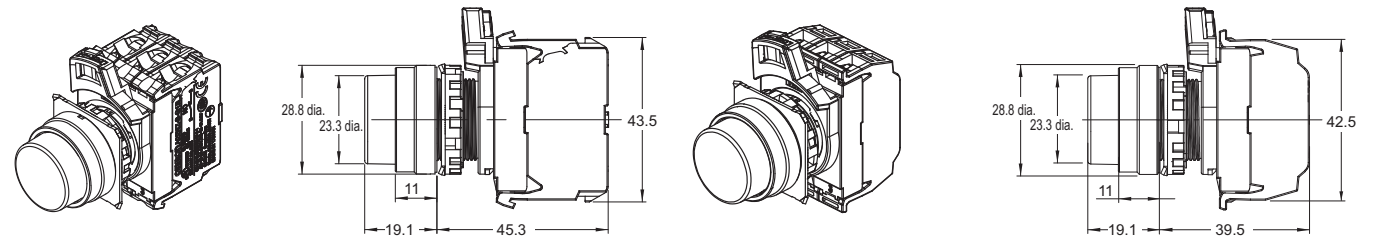
A22NL-BN□-T□A-P□-□□



#### Projected Switches with Plastic Bezels

A22N□-BP□-□A-G□-□□

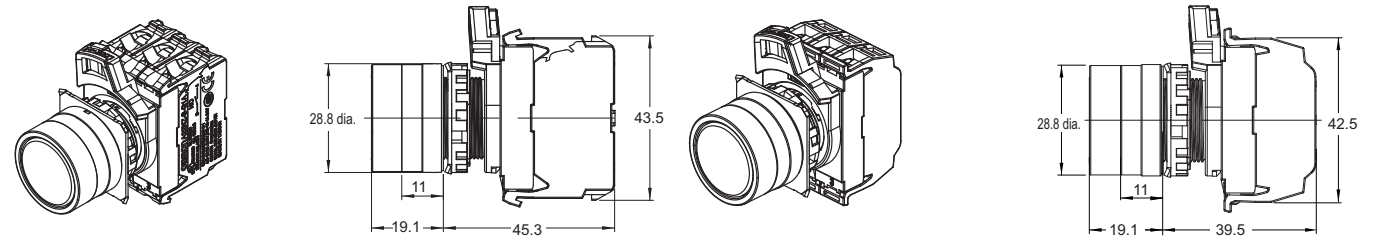
A22N□-BP□-□A-P□-□□



#### Full-guard Switches with Plastic Bezels

A22N□-BG□-□A-G□-□□

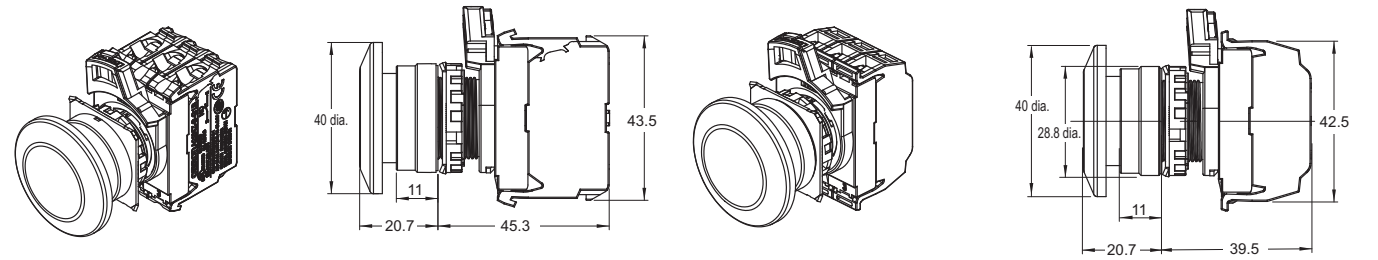
A22N□-BG□-□A-P□-□□



#### Mushroom Switches with Plastic Bezels

A22N□-BM□-□A-G□-□□

A22N□-BM□-□A-P□-□□



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

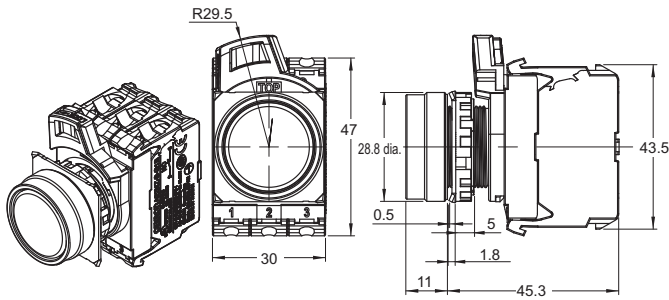
Safety  
Precautions

**Dimensions**

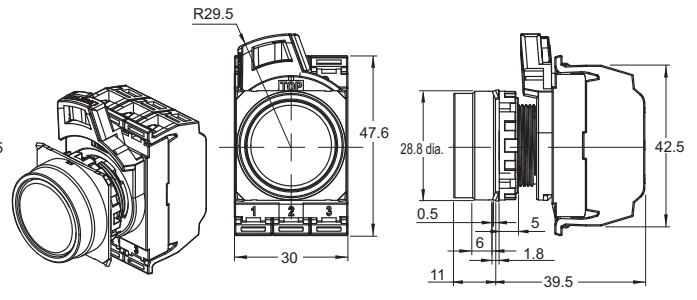
(Unit: mm)

**Flat Switches with Brushed Metal Bezels**

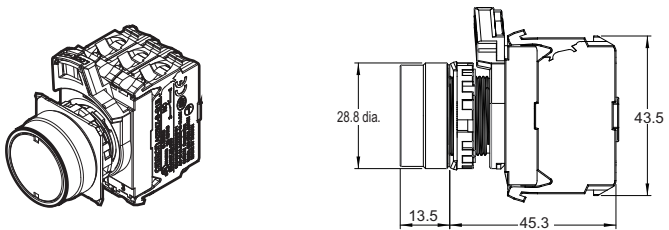
**A22NN-MN□-N□A-G□-NN**



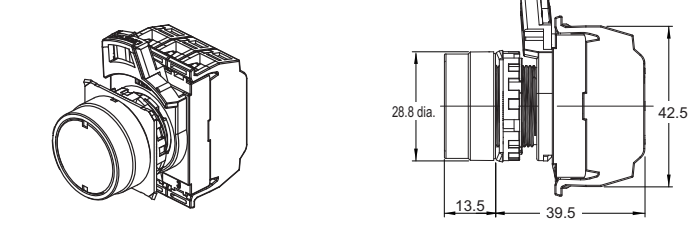
**A22NN-MN□-N□A-P□-NN**



**A22NL-MN□-T□A-G□-□□**

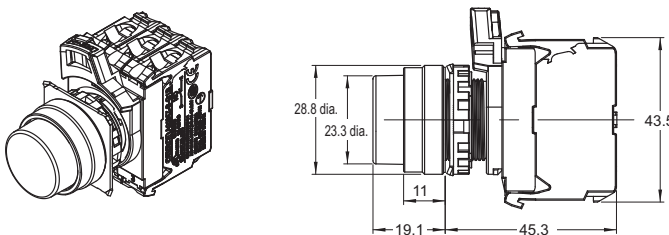


**A22NL-MN□-T□A-P□-□□**

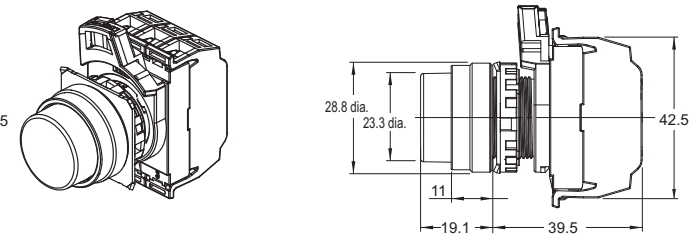


**Projected Switches with Brushed Metal Bezels**

**A22N□-MP□-□A-G□-□□**

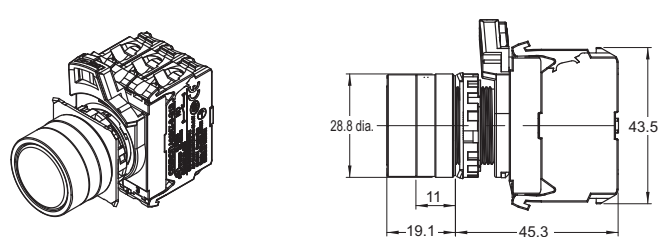


**A22N□-MP□-□A-P□-□□**

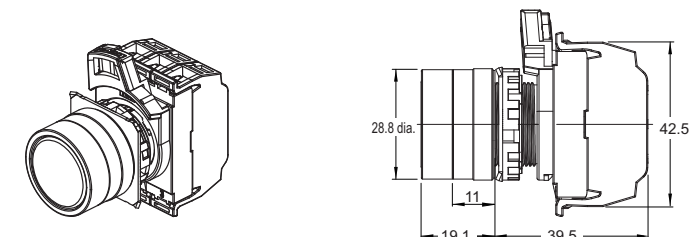


**Full-guard Switches with Brushed Metal Bezels**

**A22N□-MG□-□A-G□-□□**

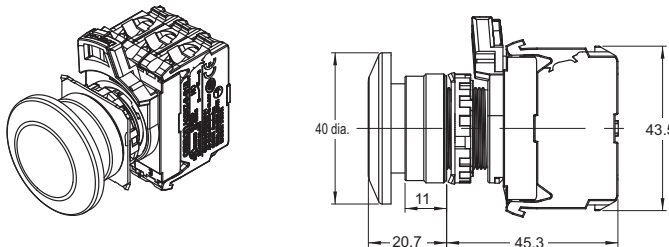


**A22N□-MG□-□A-P□-□□**

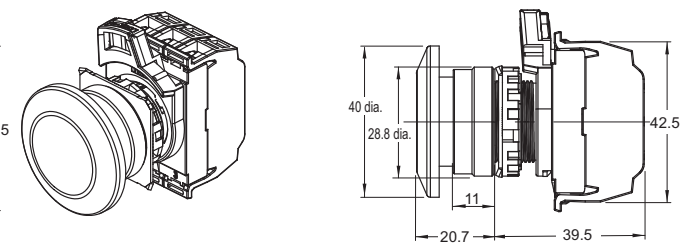


**Mushroom Switches with Brushed Metal Bezels**

**A22N□-MM□-□A-G□-□□**



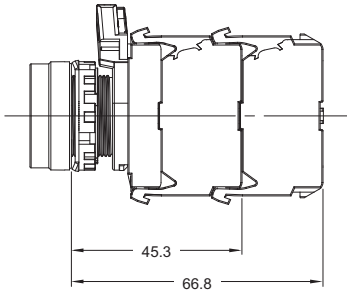
**A22N□-MM□-□A-P□-□□**



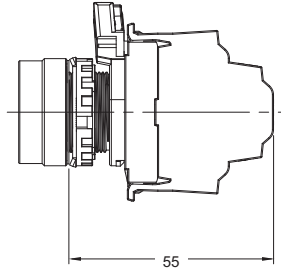
Pushbutton Switches  
A22N  
Selector Switches  
A22N  
Key-type Selector Switches  
A22N  
Indicators  
M22N  
Pushbutton Switches  
A30N  
Selector Switches  
A30N  
Key-type Selector Switches  
A30N  
Subassemblies (Common)  
Accessories and Tools  
Safety Precautions

# A22NN/A22NL

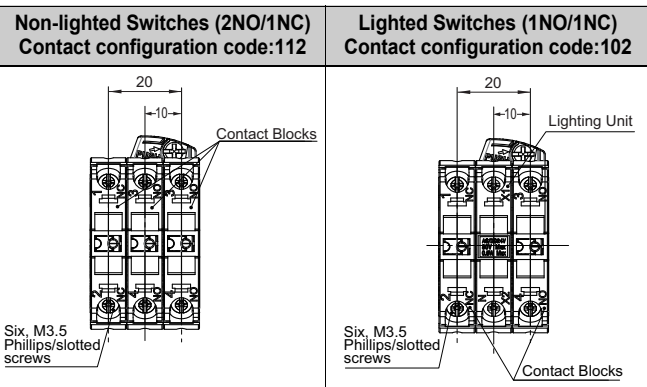
## Depth with Linked Units (Screw terminal block type)



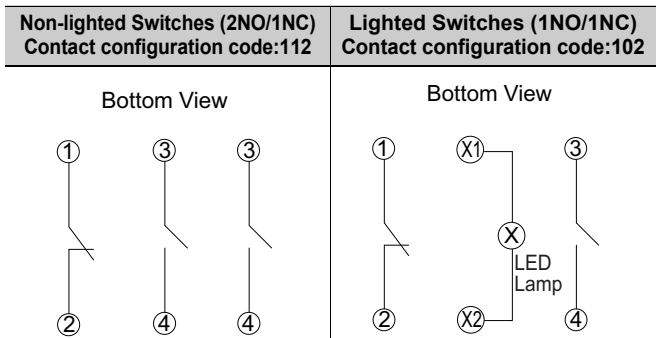
## Depth when a double-contact unit is mounted (Push-In Plus terminal block type)



## Terminal Arrangement BOTTOM VIEW (Screw terminal block type)

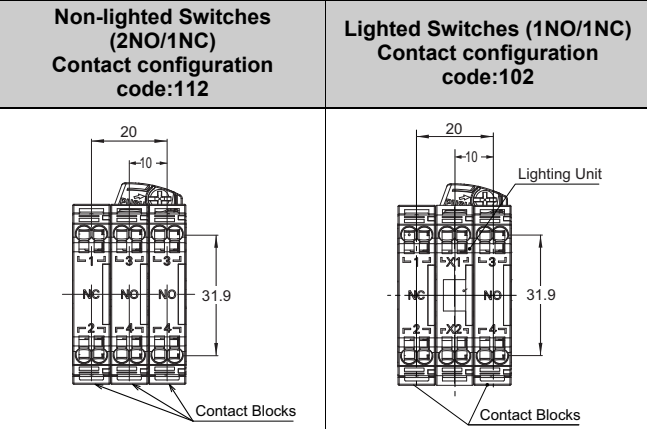


## Terminal Connection Diagrams

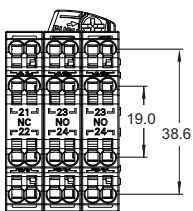


**Note:** The above shows a terminal connection diagram for a screw terminal block type.

## BOTTOM VIEW (Push-In Plus terminal block type)



## Double-contact unit Non-lighted (2NO/2NO/2NC)



Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions



# Selector Switches A22NS/A22NW

**22-mm dia. Knob-type Selector Switches**  
**Control panel miniaturization through a more compact design and modified wiring direction.**  
**Addition of Push-In Plus terminal blocks for easy wiring.**



### Easy to Use

- Improved wiring visibility through to a modified wiring direction. (Push-In Plus terminal block type)
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)
- The terminals can be secured even when a contact block is mounted. (Screw terminal block type)

### Miniaturization

- No need for extra lateral space because of the modified wiring direction. (Push-In Plus terminal block type)
- Compact design.
- A22NW (lighted models) are the same size as A22NS (non-lighted models).

### Safety

- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

### Product Lineup

- Meets global safety standards.
- Can be installed in two types of panel hole dimensions: 22.3 and 25.5 dia.
- The buttons and bezels come in a wide variety of colors, shapes, and materials.
- Standard-feature degree of protection: IP66, NEMA 4X, and NEMA 13.

Refer to *Safety Precautions for All Pushbutton Switches/ Indicators and Safety Precautions* on page 85.









## Operation Unit Colors

|                      |                             | Red          | Green | Black |        |       |      |        |               |
|----------------------|-----------------------------|--------------|-------|-------|--------|-------|------|--------|---------------|
| Non-lighted Switches | A22NS-□□□-N□<br>Opaque      |              |       |       |        |       |      |        |               |
|                      |                             |              |       |       |        |       |      |        |               |
| Lighted Switches     | A22NW-□□□-T□<br>Transparent | When not lit |       |       |        |       |      |        |               |
|                      |                             | When lit     |       |       |        |       |      |        |               |
|                      |                             |              | Red   | Green | Yellow | White | Blue | Orange | Opaque white* |
|                      |                             |              |       |       |        |       |      |        |               |

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

Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

**List of Models**

| Screw Terminal Blocks/Push-In Plus Terminal Blocks                                |   |  |   |
|---|---|--|---|
| Plastic bezels  |   |  |   |
| A22NS-□B  |   | A22NW-□B   |   |
| Non-lighted<br>Two Positions  | Three Positions   | Lighted<br>Two Positions   | Three Positions   |
|  |  |  |  |
| Screw Terminal Blocks/Push-In Plus Terminal Blocks                                |   |  |   |
| Brushed Metal bezels  |   |  |   |
| A22NS-□M  |   | A22NW-□M   |   |
| Non-lighted<br>Two Positions  | Three Positions   | Lighted<br>Two Positions   | Three Positions   |
|  |  |  |  |

Pushbutton Switches  
**A22N**

Selector Switches  
**A22N**

Key-type Selector Switches  
**A22N**

Indicators  
**M22N**

Pushbutton Switches  
**A30N**

Selector Switches  
**A30N**

Key-type Selector Switches  
**A30N**

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# A22NS/A22NW

## Model Number Structure

**Model Number Legend** - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).  
For information on combinations, refer to *Ordering Information* on pages 23 to 24.

### Model Numbers for Sets

A 2 2 N <sup>(1)</sup> W - <sup>(2)</sup> 2 <sup>(3)</sup> B <sup>(4)</sup> M - <sup>(5)</sup> N <sup>(6)</sup> R <sup>(7)</sup> A - <sup>(8)</sup> G <sup>(9)</sup> 1 0 1 - R A

#### (1) Type

| Code | Type        |
|------|-------------|
| S    | Non-lighted |
| W    | Lighted     |

#### (5) Degree of Protection

| Code | Protection                          |
|------|-------------------------------------|
| A    | Conforming to IP66, NEMA 4X, NEMA13 |

#### (6) Contacts and Terminals Specifications

| Code | Specification                       |
|------|-------------------------------------|
| G    | General/Screw Terminal Block        |
| P    | General/Push-In Plus Terminal Block |

#### (2) Number of Positions and Bezel Material

| Code | No. of positions | Bezel material |
|------|------------------|----------------|
| 2B   | 2                | Plastic        |
| 2M   | 2                | Brushed metal  |
| 3B   | 3                | Plastic        |
| 3M   | 3                | Brushed metal  |

#### (7) Contact Configuration

| Code | Contact Blocks |    | Non-lighted   |     |     |                  |                 |     | Lighted       |     |               |                  |  |
|------|----------------|----|---------------|-----|-----|------------------|-----------------|-----|---------------|-----|---------------|------------------|--|
|      |                |    | Unit position |     |     | No. of positions |                 |     | Unit position |     |               | No. of positions |  |
|      | NO             | NC | 1             | 2   | 3   | Two positions    | Three positions | 1   | 2             | 3   | Two positions | Three positions  |  |
| 100  | 1              | 0  | NO            | --- | --- | Yes              |                 | NO  | Lighting Unit | --- | Yes           |                  |  |
| 002  | 0              | 1  | ---           | --- | NC  | Yes              |                 | --- | Lighting Unit | NC  | Yes           |                  |  |
| 101  | 2              | 0  | NO            | --- | NO  | Yes              | Yes             | NO  | Lighting Unit | NO  | Yes           | Yes              |  |
| 102  | 1              | 1  | NO            | --- | NC  | Yes              | Yes             | NO  | Lighting Unit | NC  | Yes           | Yes              |  |
| 201  | 1              | 1  | NC            | --- | NO  |                  | Yes             | NC  | Lighting Unit | NO  |               | Yes              |  |
| 202  | 0              | 2  | NC            | --- | NC  | Yes              | Yes             | NC  | Lighting Unit | NC  | Yes           | Yes              |  |
| 110  | 2              | 0  | NO            | NO  | --- |                  | Yes             |     |               |     |               |                  |  |
| 111  | 3              | 0  | NO            | NO  | NO  | Yes              | Yes             |     |               |     |               |                  |  |
| 112  | 2              | 1  | NO            | NO  | NC  | Yes              | Yes             |     |               |     |               |                  |  |
| 210  | 1              | 1  | NC            | NO  | --- |                  | Yes             |     |               |     |               |                  |  |
| 211  | 2              | 1  | NC            | NO  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 212  | 1              | 2  | NC            | NO  | NC  |                  | Yes             |     |               |     |               |                  |  |
| 011  | 2              | 0  | ---           | NO  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 012  | 1              | 1  | ---           | NO  | NC  |                  | Yes             |     |               |     |               |                  |  |
| 120  | 1              | 1  | NO            | NC  | --- |                  | Yes             |     |               |     |               |                  |  |
| 121  | 2              | 1  | NO            | NC  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 122  | 1              | 2  | NO            | NC  | NC  | Yes              | Yes             |     |               |     |               |                  |  |
| 220  | 0              | 2  | NC            | NC  | --- |                  | Yes             |     |               |     |               |                  |  |
| 221  | 1              | 2  | NC            | NC  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 222  | 0              | 3  | NC            | NC  | NC  | Yes              | Yes             |     |               |     |               |                  |  |
| 021  | 1              | 1  | ---           | NC  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 022  | 0              | 2  | ---           | NC  | NC  |                  | Yes             |     |               |     |               |                  |  |

#### (3) Reset Method

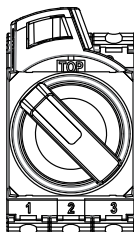
| Code | Reset method                      |  |  |
|------|-----------------------------------|--|--|
| M    | Manual                            | Two-position manual                    |  |
|      |                                   | Three-position manual                  |  |
| L    | Automatic reset on left           | Two-position automatic                 |  |
|      |                                   | Three-position left automatic          |  |
| R    | Automatic reset on right          | Three-position right automatic         |  |
| B    | Automatic reset on left and right | Three-position left or right automatic |  |

#### (4) Operation Unit Transparency and Color and (8) LED Lamp Color

| Lighted/non-lighted | Code (4) | Code (8) | Transparency | Operation Unit color | LED Lamp color |
|---------------------|----------|----------|--------------|----------------------|----------------|
| Non-lighted         | NR       | N        | Opaque       | Red                  | ---            |
|                     | NG       |          |              | Green                |                |
|                     | NB       |          |              | Black                |                |
| Lighted             | TR       | R        | Transparent  | Red                  | Red            |
|                     | TG       | G        |              | Green                | Green          |
|                     | TY       | Y        |              | Yellow               | Yellow         |
|                     | TW       | W        |              | White                | White          |
|                     | TA       | A        |              | Blue                 | Blue           |
|                     | TO       | O        |              | Orange               | Orange         |
|                     | TW       | Y        |              | White*               | Yellow         |

\* The color is opaque white when the Switch is lit.

**Note:** 1. NO (blue): Normally open, NC (orange): Normally closed.  
2. Refer to the following figure for the Unit positions.



#### (9) LED Lamp Voltage

| Code | LED Lamp voltage    |
|------|---------------------|
| N    | Non-lighted         |
| A    | 6 VAC/DC            |
| B    | 12 VAC/DC           |
| C    | 24 VAC/DC           |
| D    | 100/110/120 VAC     |
| E    | 200/220/230/240 VAC |

■ Specifications: Refer to page 12  
■ Dimensions: Refer to page 30.

■ Characteristics: Refer to page 29.  
■ Precautions for correct use: Refer to pages 85 to 96.

## Structure

### Contact Configuration Table

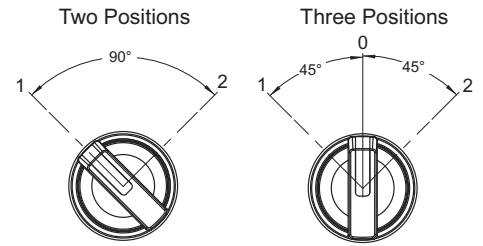
#### Two Positions

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |     |
|----------------|------|-----------------------|---------------|----------|----------|-----|
|                |      |                       |               |          | 1        | 2   |
| 1              | 100  | SPST-NO               | 1             | NO       |          | ON  |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | ---      | ---      | --- |
| 1              | 002  | SPST-NC               | 1             | ---      | ---      | --- |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NC       | ON       |     |
| 2              | 102  | SPST-NO/<br>SPST-NC   | 1             | NO       |          | ON  |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NC       | ON       |     |
| 2              | 101  | DPST-NO               | 1             | NO       |          | ON  |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NO       |          | ON  |
| 2              | 202  | DPST-NC               | 1             | NC       | ON       |     |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NC       | ON       |     |
| 3              | 111  | 3PST-NO               | 1             | NO       |          | ON  |
|                |      |                       | 2             | NO       |          | ON  |
|                |      |                       | 3             | NO       |          | ON  |
| 3              | 222  | 3PST-NC               | 1             | NC       | ON       |     |
|                |      |                       | 2             | NC       | ON       |     |
|                |      |                       | 3             | NC       | ON       |     |
| 3              | 122  | SPST-NO/<br>DPST-NC   | 1             | NO       |          | ON  |
|                |      |                       | 2             | NC       | ON       |     |
|                |      |                       | 3             | NC       | ON       |     |
| 3              | 112  | DPST-NO/<br>SPST-NC   | 1             | NO       |          | ON  |
|                |      |                       | 2             | NO       |          | ON  |
|                |      |                       | 3             | NC       | ON       |     |

#### Three Positions

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |     |     |
|----------------|------|-----------------------|---------------|----------|----------|-----|-----|
|                |      |                       |               |          | 1        | 0   | 2   |
| 2              | 110  | DPST-NO               | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 011  | DPST-NO               | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NO       |          |     | ON  |
| 2              | 101  | DPST-NO               | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NO       |          |     | ON  |
| 2              | 220  | DPST-NC               | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 022  | DPST-NC               | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NC       | ON       | ON  |     |

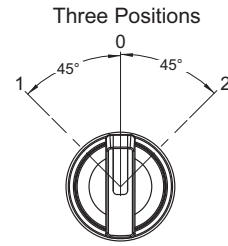
### Operation Angle

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

## A22NS/A22NW

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |     |     |
|----------------|------|-----------------------|---------------|----------|----------|-----|-----|
|                |      |                       |               |          | 1        | 0   | 2   |
| 2              | 202  | DPST-NC               | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 2              | 120  | SPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 102  | SPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 2              | 210  | SPST-NO/<br>SPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 201  | SPST-NO/<br>SPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NO       |          |     | ON  |
| 2              | 012  | SPST-NO/<br>SPST-NC   | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 2              | 021  | SPST-NO/<br>SPST-NC   | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 111  | 3PST-NO               | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 222  | 3PST-NC               | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 3              | 122  | SPST-NO/<br>DPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 3              | 212  | SPST-NO/<br>DPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 3              | 221  | SPST-NO/<br>DPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 211  | DPST-NO/<br>SPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 121  | DPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 112  | DPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NC       | ON       | ON  |     |



## Operation Angle





## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.

### Non-lighted, Two-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                          | (3)<br>Reset method                     | (4)(4)<br>Operation Unit color                          | (7)(7)(7)<br>Contact configuration |
|---|----------------|----------------|--------------------------------|---|---|------------------------------------|
| Plastic bezels<br>       | 2B             | 1              | A22NS-2B(3)-(4)(4)A-G(7)(7)-NN | M: Manual<br>L: Automatic reset on left | NR: Opaque red<br>NG: Opaque green<br>NY: Opaque yellow | 100<br>002                         |
|   |                |                | A22NS-2B(3)-(4)(4)A-P(7)(7)-NN |   |   |                                    |
|   |                | 2              | A22NS-2B(3)-(4)(4)A-G(7)(7)-NN |   |   | 111<br>222<br>122<br>112           |
|   |                |                | A22NS-2B(3)-(4)(4)A-P(7)(7)-NN |   |   |                                    |
|   |                | 3              | A22NS-2B(3)-(4)(4)A-G(7)(7)-NN |   |   |                                    |
|   |                |                | A22NS-2B(3)-(4)(4)A-P(7)(7)-NN |   |   |                                    |
| Brushed metal bezels<br> | 2M             | 1              | A22NS-2M(3)-(4)(4)A-G(7)(7)-NN | M: Manual<br>L: Automatic reset on left | NR: Opaque red<br>NG: Opaque green<br>NY: Opaque yellow | 100<br>002                         |
|   |                |                | A22NS-2M(3)-(4)(4)A-P(7)(7)-NN |   |   |                                    |
|   |                | 2              | A22NS-2M(3)-(4)(4)A-G(7)(7)-NN |   |   | 111<br>222<br>122<br>112           |
|   |                |                | A22NS-2M(3)-(4)(4)A-P(7)(7)-NN |   |   |                                    |
|   |                | 3              | A22NS-2M(3)-(4)(4)A-G(7)(7)-NN |   |   |                                    |
|   |                |                | A22NS-2M(3)-(4)(4)A-P(7)(7)-NN |   |   |                                    |

### Non-lighted, Three-position, Selector Switches

| Appearance  | Bezel material                 | No. of outputs  | Model                          | (3)<br>Reset method  | (4)(4)<br>Operation Unit color                          | (7)(7)(7)<br>Contact configuration   |                                |  |   |  |
|---|--------------------------------|---|--------------------------------|--|---|--|--------------------------------|--|---|--|
| Plastic bezels<br> | 3B                             | 2   | A22NS-3B(3)-(4)(4)A-G(7)(7)-NN | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | NR: Opaque red<br>NG: Opaque green<br>NY: Opaque yellow | 110<br>011<br>101<br>220<br>022<br>202<br>120<br>102<br>210<br>201<br>012<br>021 |                                |  |   |  |
|   |                                |   | A22NS-3B(3)-(4)(4)A-P(7)(7)-NN |  |   |  |                                |  |   |  |
|   |                                | 3   | A22NS-3B(3)-(4)(4)A-G(7)(7)-NN |  |   | 111<br>222<br>122<br>212<br>221<br>211<br>121<br>112                             |                                |  |   |  |
|   |                                |   | A22NS-3B(3)-(4)(4)A-P(7)(7)-NN |  |   |  |                                |  |   |  |
|   |                                | Brushed metal bezels<br> | 3M                             |  |   | 2  | A22NS-3M(3)-(4)(4)A-G(7)(7)-NN | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | NR: Opaque red<br>NG: Opaque green<br>NY: Opaque yellow | 110<br>011<br>101<br>220<br>022<br>202<br>120<br>102<br>210<br>201<br>012<br>021 |
|   |                                |   |                                |  |   |  | A22NS-3M(3)-(4)(4)A-P(7)(7)-NN |  |   |  |
| 3   | A22NS-3M(3)-(4)(4)A-G(7)(7)-NN |   |                                | 111<br>222<br>122<br>212<br>221<br>211<br>121<br>112   |   |  |                                |  |   |  |
|   | A22NS-3M(3)-(4)(4)A-P(7)(7)-NN |   |                                |  |   |  |                                |  |   |  |



Pushbutton Switches  
A22NSelector Switches  
A22NKey-Type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-Type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

# A22NS/A22NW



## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp, Mounting Collar, Contact Block, and Lighting Unit.

### Lighted, Two-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                                 | (3) Reset method                        | (4)(4) Operation Unit color   | (7)(7)(7) Contact Configuration | (8) LED Lamp color  | (9) LED Lamp voltage  |
|---|----------------|----------------|---------------------------------------|---|---|---------------------------------|---|---|
|  | 2B             | 1              | A22NW-2B(3)-(4)(4)A-G(7)(7)(7)-(8)(9) | M: Manual<br>L: Automatic reset on left | TR: Transparent red<br>TG: Transparent green<br>TY: Transparent yellow<br>TW: Transparent white<br>TA: Transparent blue<br>TO: Transparent orange | 100<br>002                      | R: Red<br>G: Green<br>Y: Yellow<br>A: Blue<br>O: Orange<br>W: White | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |                |                | A22NW-2B(3)-(4)(4)A-P(7)(7)(7)-(8)(9) |   |   |                                 |   |   |
|   |                | 2              | A22NW-2B(3)-(4)(4)A-G(7)(7)(7)-(8)(9) |   |   |                                 |   |   |
|   |                |                | A22NW-2B(3)-(4)(4)A-P(7)(7)(7)-(8)(9) |   |   |                                 |   |   |
|  | 2M             | 1              | A22NW-2M(3)-(4)(4)A-G(7)(7)(7)-(8)(9) |   |   |                                 |   |   |
|   |                |                | A22NW-2M(3)-(4)(4)A-P(7)(7)(7)-(8)(9) |   |   |                                 |   |   |
|   |                | 2              | A22NW-2M(3)-(4)(4)A-G(7)(7)(7)-(8)(9) |   |   |                                 |   |   |
|   |                |                | A22NW-2M(3)-(4)(4)A-P(7)(7)(7)-(8)(9) |   |   |                                 |   |   |

### Lighted, Three-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                                 | (3) Reset method   | (4)(4) Operation Unit color   | (7)(7)(7) Contact Configuration | (8) LED Lamp color  | (9) LED Lamp voltage  |
|---|----------------|----------------|---------------------------------------|--|---|---------------------------------|---|---|
|  | 3B             | 2              | A22NW-3B(3)-(4)(4)A-G(7)(7)(7)-(8)(9) | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | TR: Transparent red<br>TG: Transparent green<br>TY: Transparent yellow<br>TW: Transparent white<br>TA: Transparent blue<br>TO: Transparent orange | 101<br>202<br>102<br>201        | R: Red<br>G: Green<br>Y: Yellow<br>A: Blue<br>O: Orange<br>W: White | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |                |                | A22NW-3B(3)-(4)(4)A-P(7)(7)(7)-(8)(9) |  |   |                                 |   |   |
|  | 3M             | 2              | A22NW-3M(3)-(4)(4)A-G(7)(7)(7)-(8)(9) |  |   |                                 |   |   |
|   |                |                | A22NW-3M(3)-(4)(4)A-P(7)(7)(7)-(8)(9) |  |   |                                 |   |   |

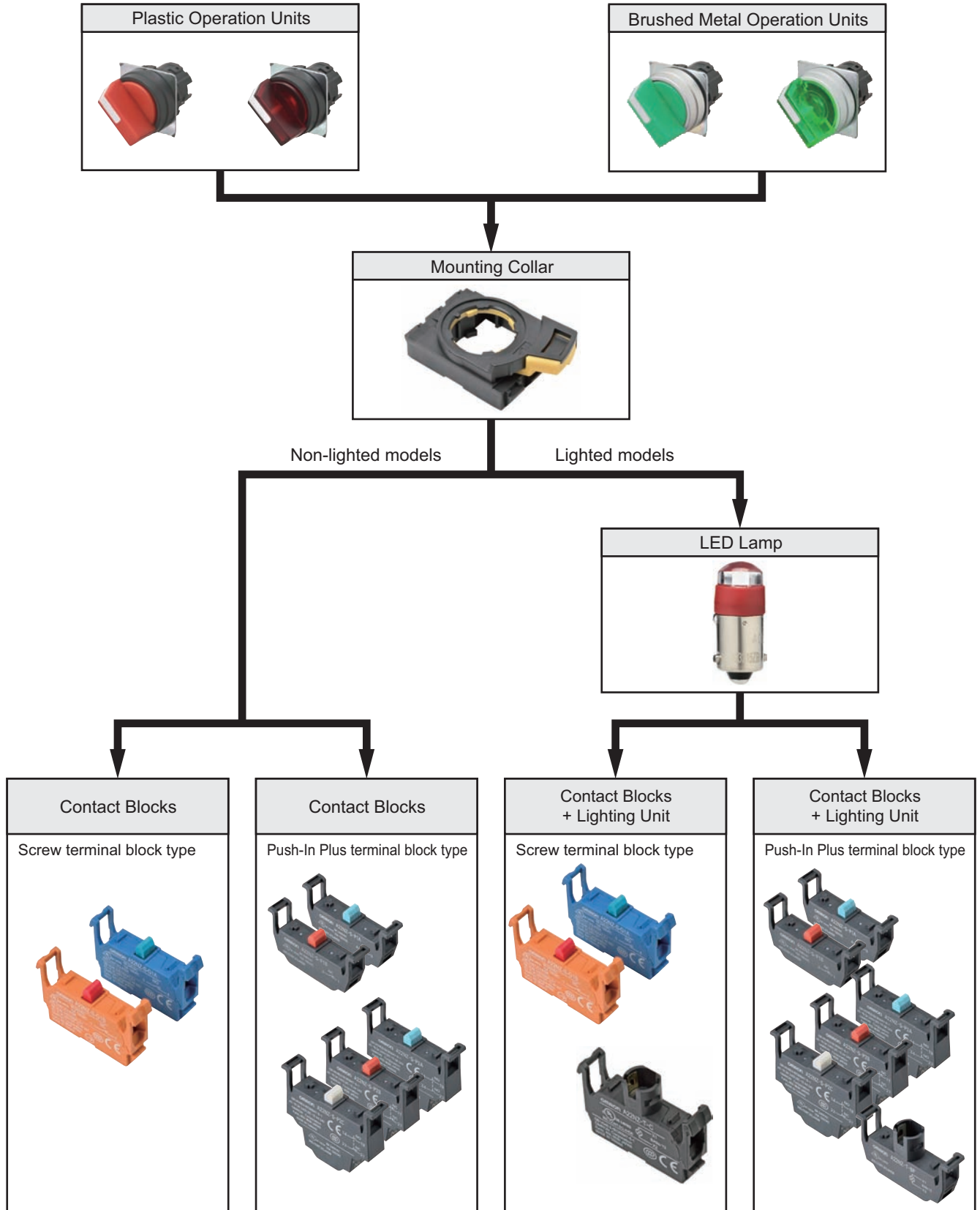
**Note:** Normally, the Operation Unit and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Operation Unit and yellow LED. A22N□-□□□-TWA-□□□□-Y□

■ Subassemblies: Refer to pages 25 to 27 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 12 ■ Characteristics: Refer to page 29.  
 ■ Dimensions: Refer to page 30.  
 ■ Accessories and tools: Refer to pages 80 to 81.

# Ordering Information

**Subassemblies** - - - - You can order Operation Units, LED Lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

- Model numbers of sets: Refer to pages 23 to 24.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 29.




- Dimensions: Refer to page 30.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

# A22NS/A22NW

## Ordering Information

**Subassemblies** - - - - You can order Operation Units, Mounting Collars, and Contact Blocks individually. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.

### Operation Unit Non-lighted Switches

| Bezel material and shape |                                   |                      | Plastic   | Brushed metal   |   |
|--------------------------|-----------------------------------|----------------------|---|---|---|
|                          |                                   |                      |  |  |  |
| No. of positions         | Reset method                      | Operation Unit color | Model   | Model   |   |
| 2                        | Manual                            | Opaque red           | A22NZ-2BM-NRA   | A22NZ-2MM-NRA   |   |
|                          | Automatic reset on left           |                      | A22NZ-2BL-NRA   | A22NZ-2ML-NRA   |   |
| 3                        | Manual                            |                      | A22NZ-3BM-NRA   | A22NZ-3MM-NRA   |   |
|                          | Automatic reset on left           |                      | A22NZ-3BL-NRA   | A22NZ-3ML-NRA   |   |
|                          | Automatic reset on right          |                      | A22NZ-3BR-NRA   | A22NZ-3MR-NRA   |   |
|                          | Automatic reset on left and right |                      | A22NZ-3BB-NRA   | A22NZ-3MB-NRA   |   |
| 2                        | Manual                            |                      | Opaque green  | A22NZ-2BM-NGA   | A22NZ-2MM-NGA   |
|                          | Automatic reset on left           |                      |   | A22NZ-2BL-NGA   | A22NZ-2ML-NGA   |
| 3                        | Manual                            | A22NZ-3BM-NGA        |   | A22NZ-3MM-NGA   |   |
|                          | Automatic reset on left           | A22NZ-3BL-NGA        |   | A22NZ-3ML-NGA   |   |
|                          | Automatic reset on right          | A22NZ-3BR-NGA        |   | A22NZ-3MR-NGA   |   |
|                          | Automatic reset on left and right | A22NZ-3BB-NGA        |   | A22NZ-3MB-NGA   |   |
| 2                        | Manual                            | Opaque black         |   | A22NZ-2BM-NBA   | A22NZ-2MM-NBA   |
|                          | Automatic reset on left           |                      |   | A22NZ-2BL-NBA   | A22NZ-2ML-NBA   |
| 3                        | Manual                            |                      | A22NZ-3BM-NBA   | A22NZ-3MM-NBA   |   |
|                          | Automatic reset on left           |                      | A22NZ-3BL-NBA   | A22NZ-3ML-NBA   |   |
|                          | Automatic reset on right          |                      | A22NZ-3BR-NBA   | A22NZ-3MR-NBA   |   |
|                          | Automatic reset on left and right |                      | A22NZ-3BB-NBA   | A22NZ-3MB-NBA   |   |

- Model numbers of sets: Refer to pages 23 to 24.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 29.


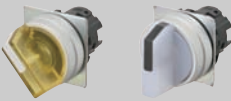
- Dimensions: Refer to page 30.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

# Ordering Information

## Subassemblies

-----You can order Operation Units, LED Lamps, Mounting Collars, Contact Blocks, and Lighting Units separately. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.

## Lighted Switches

| No. of positions | Reset method                      | Operation Unit color | Bezel material and shape  |  |               |
|------------------|-----------------------------------|----------------------|---|--|---------------|
|                  |                                   |                      | Plastic<br> | Brushed metal<br> |               |
|                  |                                   |                      | Model   | Model  |               |
| 2                | Manual                            | Transparent red      | A22NZ-2BM-TRA   | A22NZ-2MM-TRA  |               |
|                  | Automatic reset on left           |                      | A22NZ-2BL-TRA   | A22NZ-2ML-TRA  |               |
| 3                | Manual                            |                      | A22NZ-3BM-TRA   | A22NZ-3MM-TRA  |               |
|                  | Automatic reset on left           |                      | A22NZ-3BL-TRA   | A22NZ-3ML-TRA  |               |
|                  | Automatic reset on right          |                      | A22NZ-3BR-TRA   | A22NZ-3MR-TRA  |               |
|                  | Automatic reset on left and right |                      | A22NZ-3BB-TRA   | A22NZ-3MB-TRA  |               |
| 2                | Manual                            |                      | Transparent green   | A22NZ-2BM-TGA  | A22NZ-2MM-TGA |
|                  | Automatic reset on left           |                      |   | A22NZ-2BL-TGA  | A22NZ-2ML-TGA |
| 3                | Manual                            |                      |   | A22NZ-3BM-TGA  | A22NZ-3MM-TGA |
|                  | Automatic reset on left           |                      |   | A22NZ-3BL-TGA  | A22NZ-3ML-TGA |
|                  | Automatic reset on right          |                      |   | A22NZ-3BR-TGA  | A22NZ-3MR-TGA |
|                  | Automatic reset on left and right |                      |   | A22NZ-3BB-TGA  | A22NZ-3MB-TGA |
| 2                | Manual                            | Transparent yellow   |   | A22NZ-2BM-TYA  | A22NZ-2MM-TYA |
|                  | Automatic reset on left           |                      |   | A22NZ-2BL-TYA  | A22NZ-2ML-TYA |
| 3                | Manual                            |                      |   | A22NZ-3BM-TYA  | A22NZ-3MM-TYA |
|                  | Automatic reset on left           |                      |   | A22NZ-3BL-TYA  | A22NZ-3ML-TYA |
|                  | Automatic reset on right          |                      |   | A22NZ-3BR-TYA  | A22NZ-3MR-TYA |
|                  | Automatic reset on left and right |                      |   | A22NZ-3BB-TYA  | A22NZ-3MB-TYA |
| 2                | Manual                            |                      | Transparent white   | A22NZ-2BM-TWA  | A22NZ-2MM-TWA |
|                  | Automatic reset on left           |                      |   | A22NZ-2BL-TWA  | A22NZ-2ML-TWA |
| 3                | Manual                            |                      |   | A22NZ-3BM-TWA  | A22NZ-3MM-TWA |
|                  | Automatic reset on left           |                      |   | A22NZ-3BL-TWA  | A22NZ-3ML-TWA |
|                  | Automatic reset on right          |                      |   | A22NZ-3BR-TWA  | A22NZ-3MR-TWA |
|                  | Automatic reset on left and right |                      |   | A22NZ-3BB-TWA  | A22NZ-3MB-TWA |
| 2                | Manual                            | Transparent blue     |   | A22NZ-2BM-TAA  | A22NZ-2MM-TAA |
|                  | Automatic reset on left           |                      |   | A22NZ-2BL-TAA  | A22NZ-2ML-TAA |
| 3                | Manual                            |                      |   | A22NZ-3BM-TAA  | A22NZ-3MM-TAA |
|                  | Automatic reset on left           |                      |   | A22NZ-3BL-TAA  | A22NZ-3ML-TAA |
|                  | Automatic reset on right          |                      |   | A22NZ-3BR-TAA  | A22NZ-3MR-TAA |
|                  | Automatic reset on left and right |                      |   | A22NZ-3BB-TAA  | A22NZ-3MB-TAA |
| 2                | Manual                            |                      | Transparent orange  | A22NZ-2BM-TOA  | A22NZ-2MM-TOA |
|                  | Automatic reset on left           |                      |   | A22NZ-2BL-TOA  | A22NZ-2ML-TOA |
| 3                | Manual                            |                      |   | A22NZ-3BM-TOA  | A22NZ-3MM-TOA |
|                  | Automatic reset on left           |                      |   | A22NZ-3BL-TOA  | A22NZ-3ML-TOA |
|                  | Automatic reset on right          |                      |   | A22NZ-3BR-TOA  | A22NZ-3MR-TOA |
|                  | Automatic reset on left and right |                      |   | A22NZ-3BB-TOA  | A22NZ-3MB-TOA |

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

- Model numbers of sets: Refer to pages 23 to 24.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 29.

- Dimensions: Refer to page 30.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

# A22NS/A22NW

## Specifications

### Certified Safety Standard Ratings

**UL 508 (File No. E76675), CSA C22.2 No.14**

6 A 240 VAC, 10 A 120 VAC

**TÜV (EN60947-5-1)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**CCC (GB/T14048.5)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

### Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

### Ratings

#### Contacts (Standard Load)

| Rated insulation voltage |                        | 600 V |       |        |       |       |
|--------------------------|------------------------|-------|-------|--------|-------|-------|
| Rated carry current      |                        | 10 A  |       |        |       |       |
| Rated 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)<br>Approx. 5 mA (white or green) |
| 12 VAC/DC     | 12 VAC/DC $\pm 10\%$ | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 24 VAC/DC     | 24 VAC/DC $\pm 10\%$ | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 100 VAC       | 100 VAC $\pm 10\%$   | Approx. 12 mA (red, orange, yellow, or blue)<br>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)<br>Approx. 5 mA (white or green) |
| 220 VAC       | 220 VAC $\pm 10\%$   |   |
| 230 VAC       | 230 VAC $\pm 10\%$   |   |
| 240 VAC       | 220 to 250 VAC       |   |

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

# Specifications

## Characteristics

| Item  | Type                               | Selector Switches   |                                  |
|---|------------------------------------|---|----------------------------------|
|   |                                    | Non-lighted models  | Lighted models                   |
| Allowable operating frequency                     | Mechanical                         | 30 operations/minute max.   |                                  |
|   | Electrical                         | 30 operations/minute max.   |                                  |
| Insulation resistance                             |                                    | 100 MΩ min. (at 500 VDC)  | Not available for lighting units |
| Contact resistance                                |                                    | 100 mΩ max. (initial value)   |                                  |
| Dielectric strength                               | Between terminals of same polarity | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  | Not available for lighting units |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  |                                  |
| 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                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.)  |                                  |
|   | Electrical                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.) (250 VAC, 3 A, with an inductive load having power factor cos θ = 0.4) |                                  |
| 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>                |                                    | Conforming to IP66, NEMA 4X, NEMA 13  |                                  |
| Electric shock protection class                   |                                    | Class II  |                                  |
| PTI (tracking characteristic)                     |                                    | 175   |                                  |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)  |                                  |
| Weight  |                                    | Approx. 50 g (for 1NC/1NO)  | Approx. 60 g (for 1NC/1NO)       |

\*1. With no icing or condensation.

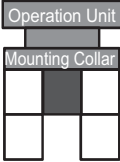
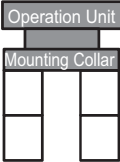
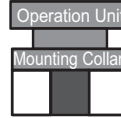
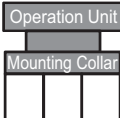
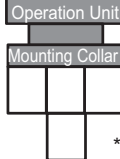
\*2. Degree of protection from the front of the panel.

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

| Item                                      | Type | Selector Switches                                  |                 |
|---|------|--|-----------------|
|   |      | Manual reset                                       | Automatic reset |
| Total travel force (torque) (maximum TTF) |      | 0.6 N·m  | 0.6 N·m         |
| Total travel (TT)                         |      | 2 positions: Approx. 90°, 3 positions: Approx. 45° |                 |
| Resetting force (torque) (RF)             |      | 0.5 N·m max.                                       | ---             |

## Examples of Linked Contact Blocks (Screw terminal block type)

Contact Blocks  Lighting Units

|                 | Selector Switches   |   |   |   |
|-----------------|---|---|---|---|
|                 | 2 positions   |   | 3 positions   |   |
|                 | Lighted   | Non-lighted   | Lighted   | Non-lighted   |
| Linking example |  |  |  |  |
|                 |   |  |   |   |

\* If you use three Contact Blocks in stage 1, you can add one more Contact Block in the middle of stage 2.

**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.

# A22NS/A22NW

## Dimensions

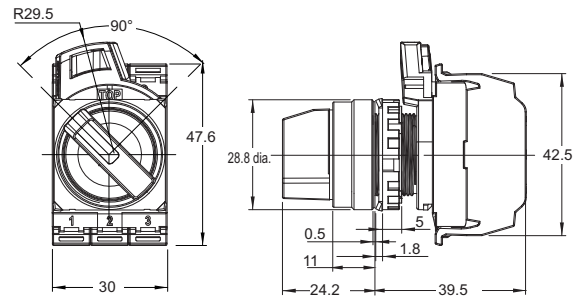
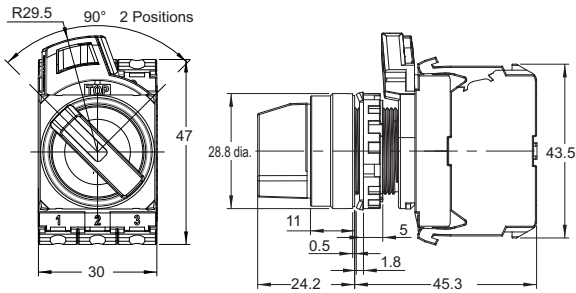
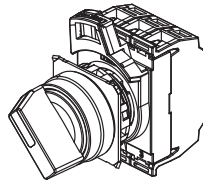
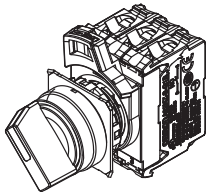
(Unit: mm)

### Lighted and Non-lighted Selection Switches

#### Two-position Switches with Plastic Bezels

A22N□-2B□-□□A-G

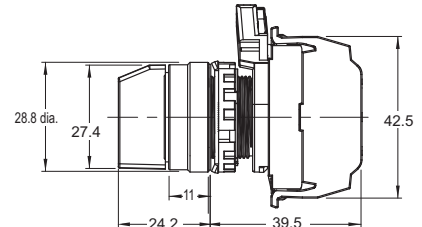
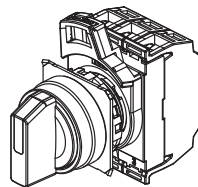
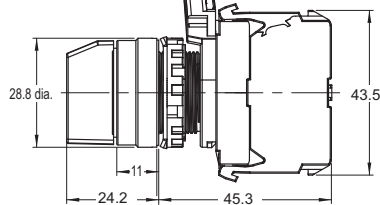
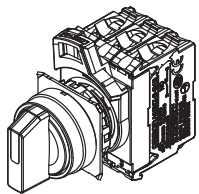
A22N□-2B□-□□A-P



#### Three-position Switches with Plastic Bezels

A22N□-3B□-□□A-G

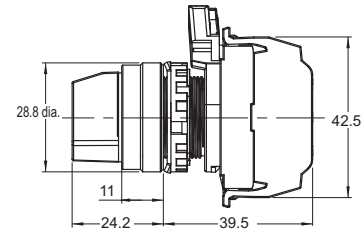
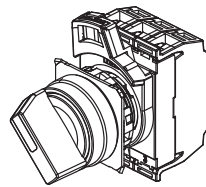
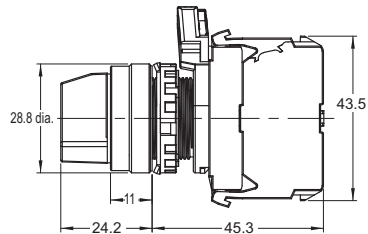
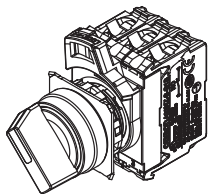
A22N□-3B□-□□A-P



#### Two-position Switches with Brushed Metal Bezels

A22N□-2M□-□□A-G

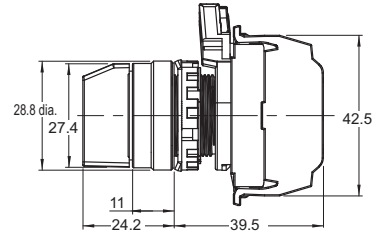
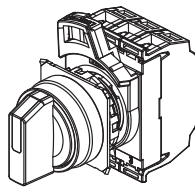
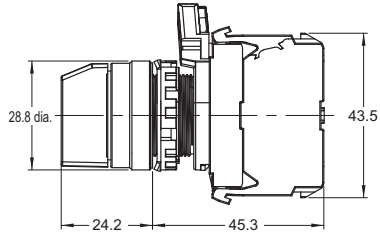
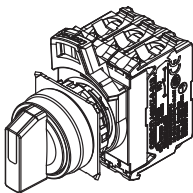
A22N□-2M□-□□A-P



#### Three-position Switches with Brushed Metal Bezels

A22N□-3M□-□□A-G

A22N□-3M□-□□A-P



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

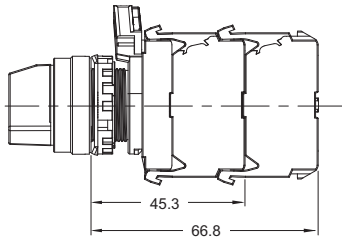
Key-type Selector Switches  
A30N

Subassemblies  
(Common)

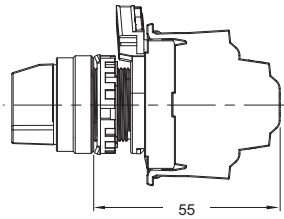
Accessories  
and Tools

Safety  
Precautions

**Depth with Linked Units  
(Screw terminal block type)**

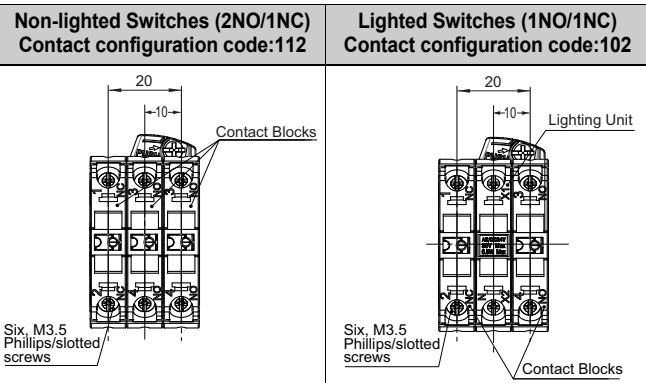


**Depth when a double-contact unit is mounted  
(Push-In Plus terminal block type)**

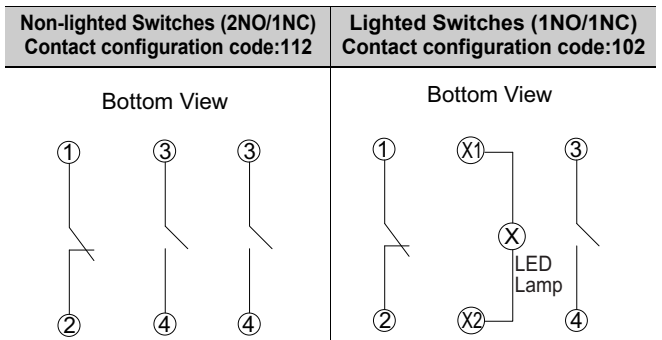


**Terminal Arrangement**

**BOTTOM VIEW (Screw terminal block type)**

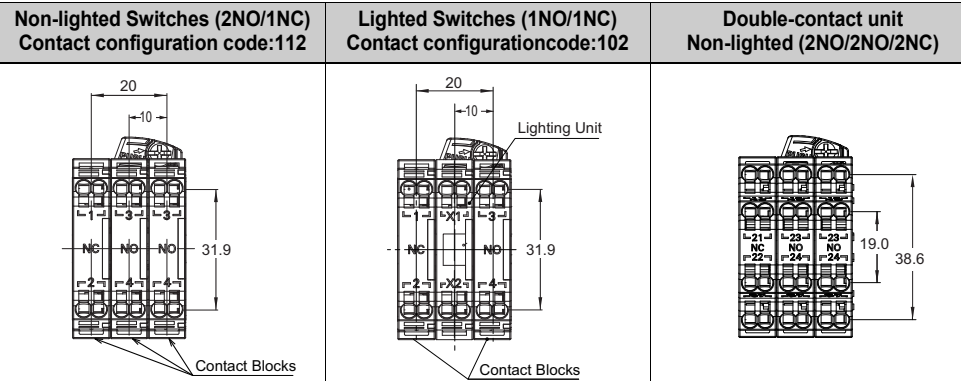


**Terminal Connection Diagrams**



**Note:** The above shows a terminal connection diagram for a screw terminal block type.

**BOTTOM VIEW (Push-In Plus terminal block type)**



Pushbutton Switches  
**A22N**

Selector Switches  
**A22N**

Key-type Selector Switches  
**A22N**

Indicators  
**M22N**

Pushbutton Switches  
**A30N**

Selector Switches  
**A30N**

Key-type Selector Switches  
**A30N**

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# Key-type Selector Switches

## A22NK

**22-mm dia. Key-type Selector Switches**  
**Control panel miniaturization through a more compact design and modified wiring direction.**  
**Addition of Push-In Plus terminal blocks for easy wiring.**



### Easy to Use

- You can connect up to three Contact Blocks in one stage for multistage expansion.
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)
- The terminals can be secured even when a contact block is mounted. (Screw terminal block type)
- Contact Blocks can be attached in any direction for easy assembly.

### Miniaturization


- No need for extra lateral space because of the modified wiring direction. (Push-In Plus terminal block type)
- Compact design.

### Safety





- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

### Product Lineup

- Meet global safety standards.
- Can be installed in two types of panel hole dimensions: 22.3 and 25.5 dia.
- The buttons and bezels come in a wide variety of colors, shapes, and materials.
- Standard-feature degree of protection: IP66 and NEMA 13.

 Refer to *Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions* on page 85.

## List of Models

| Screw Terminal Blocks/Push-In Plus Terminal Blocks                                  |   | Screw Terminal Blocks/Push-In Plus Terminal Blocks                                   |   |
|---|---|--|---|
| Plastic bezels  |   | Brushed metal bezels   |   |
| A22NK-□B  |   | A22NK-□M   |   |
| Two Positions   | Three Positions   | Two Positions  | Three Positions   |
|  |  |  |  |

# Model Number Structure

## Model Number Legend

----- Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.  
For information on combinations, refer to *Ordering Information* on page 36.

### Model Numbers for Sets

A 2 2 N <sup>(1)</sup> **K** - <sup>(2)</sup> **2B** <sup>(3)</sup> **M** - <sup>(4)</sup> **01** <sup>(5)</sup> **A** <sup>(6)</sup> **A** - <sup>(7)</sup> **G** <sup>(8)</sup> **100**

#### (1) Type

| Code | Type                     |
|------|--------------------------|
| K    | Key-type Selector Switch |

#### (4) Key Number

| Code | No.  |
|------|------|
| 01   | No.1 |

#### (7) Contacts and Terminals Specifications

| Code | Specification                       |
|------|-------------------------------------|
| G    | General/Screw Terminal Block        |
| P    | General/Push-In Plus Terminal Block |

#### (2) Number of Positions and Bezel Material

| Code | No. of positions | Bezel material |
|------|------------------|----------------|
| 2B   | 2                | Plastic        |
| 2M   | 2                | Brushed metal  |
| 3B   | 3                | Plastic        |
| 3M   | 3                | Brushed metal  |

#### (5) Key Release Position \*

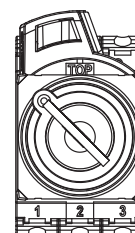
| Code | Release position | Two positions | Three positions |
|------|------------------|---------------|-----------------|
| A    | All positions    |               |                 |
| B    | Left             |               |                 |
| C    | Right            |               |                 |
| D    | Center           | ---           |                 |
| G    | Left and right   | ---           |                 |

○: Release position    ●: Locked position  
\* The key can only be removed when in the free position for automatic reset models.

#### (8) Contact Configuration

| Code | Contact Blocks |    | Unit position |     |     | Two positions | Three positions |
|------|----------------|----|---------------|-----|-----|---------------|-----------------|
|      | NO             | NC | 1             | 2   | 3   |               |                 |
| 100  | 1              | 0  | NO            | --- | --- | Yes           | ---             |
| 002  | 0              | 1  | ---           | --- | NC  | Yes           | ---             |
| 101  | 2              | 0  | NO            | --- | NO  | Yes           | Yes             |
| 102  | 1              | 1  | NO            | --- | NC  | Yes           | Yes             |
| 201  | 1              | 1  | NC            | --- | NO  | ---           | Yes             |
| 202  | 0              | 2  | NC            | --- | NC  | Yes           | Yes             |
| 110  | 2              | 0  | NO            | NO  | --- | ---           | Yes             |
| 111  | 3              | 0  | NO            | NO  | NO  | Yes           | Yes             |
| 112  | 2              | 1  | NO            | NO  | NC  | Yes           | Yes             |
| 210  | 1              | 1  | NC            | NO  | --- | ---           | Yes             |
| 211  | 2              | 1  | NC            | NO  | NO  | ---           | Yes             |
| 212  | 1              | 2  | NC            | NO  | NC  | ---           | Yes             |
| 011  | 2              | 0  | ---           | NO  | NO  | ---           | Yes             |
| 012  | 1              | 1  | ---           | NO  | NC  | ---           | Yes             |
| 120  | 1              | 1  | NO            | NC  | --- | ---           | Yes             |
| 121  | 2              | 1  | NO            | NC  | NO  | ---           | Yes             |
| 122  | 1              | 2  | NO            | NC  | NC  | Yes           | Yes             |
| 220  | 0              | 2  | NC            | NC  | --- | ---           | Yes             |
| 221  | 1              | 2  | NC            | NC  | NO  | ---           | Yes             |
| 222  | 0              | 3  | NC            | NC  | NC  | Yes           | Yes             |
| 021  | 1              | 1  | ---           | NC  | NO  | ---           | Yes             |
| 022  | 0              | 2  | ---           | NC  | NC  | ---           | Yes             |

**Note:** 1. NO (blue): Normally open, NC (orange): Normally closed.  
2. Refer to the following figure for Unit positions.



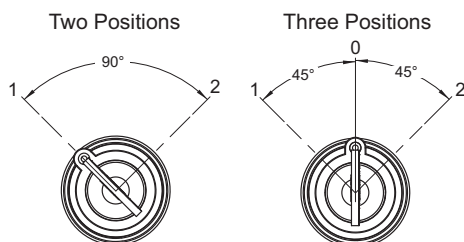
#### (3) Reset Method

| Code | Reset method                      |   |  |
|------|-----------------------------------|---|--|
| M    | Manual                            | Two-positions manual                    |  |
|      |                                   | Three-positions manual                  |  |
| L    | Automatic reset on left           | Two-positions automatic                 |  |
|      |                                   | Three-positions left automatic          |  |
| R    | Automatic reset on right          | Three-positions right automatic         |  |
| B    | Automatic reset on left and right | Three-positions left or right automatic |  |

#### (6) Degree of Protection

| Code | Protection                 |
|------|----------------------------|
| A    | Conforming to IP66, NEMA13 |

### Operation Angle



- Specifications: Refer to page 12.
- Dimensions: Refer to page 41.

- Characteristics: Refer to page 40.
- Precautions for correct use: Refer to pages 85 to 96.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

# A22NK

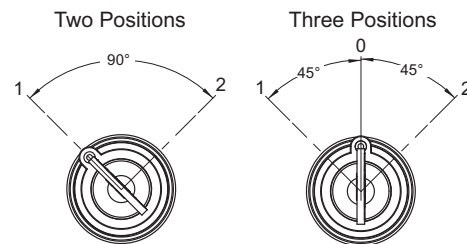
## Structure

### Contact Configuration Table

#### Two Positions

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |     |
|----------------|------|-----------------------|---------------|----------|----------|-----|
|                |      |                       |               |          | 1        | 2   |
| 1              | 100  | SPST-NO               | 1             | NO       |          | ON  |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | ---      | ---      | --- |
| 1              | 002  | SPST-NC               | 1             | ---      | ---      | --- |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NC       | ON       |     |
| 2              | 102  | SPST-NO/<br>SPST-NC   | 1             | NO       |          | ON  |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NC       | ON       |     |
| 2              | 101  | DPST-NO               | 1             | NO       |          | ON  |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NO       |          | ON  |
| 2              | 202  | DPST-NC               | 1             | NC       | ON       |     |
|                |      |                       | 2             | ---      | ---      | --- |
|                |      |                       | 3             | NC       | ON       |     |
| 3              | 111  | 3PST-NO               | 1             | NO       |          | ON  |
|                |      |                       | 2             | NO       |          | ON  |
|                |      |                       | 3             | NO       |          | ON  |
| 3              | 222  | 3PST-NC               | 1             | NC       | ON       |     |
|                |      |                       | 2             | NC       | ON       |     |
|                |      |                       | 3             | NC       | ON       |     |
| 3              | 122  | SPST-NO/<br>DPST-NC   | 1             | NO       |          | ON  |
|                |      |                       | 2             | NC       | ON       |     |
|                |      |                       | 3             | NC       | ON       |     |
| 3              | 112  | DPST-NO/<br>SPST-NC   | 1             | NO       |          | ON  |
|                |      |                       | 2             | NO       |          | ON  |
|                |      |                       | 3             | NC       | ON       |     |

### Operation Angle

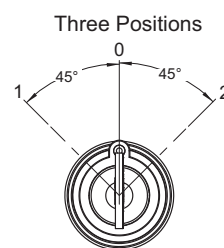


#### Three Positions

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |     |     |
|----------------|------|-----------------------|---------------|----------|----------|-----|-----|
|                |      |                       |               |          | 1        | 0   | 2   |
| 2              | 110  | DPST-NO               | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 011  | DPST-NO               | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NO       |          |     | ON  |
| 2              | 101  | DPST-NO               | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NO       |          |     | ON  |
| 2              | 220  | DPST-NC               | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 022  | DPST-NC               | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NC       | ON       | ON  |     |

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |     |     |
|----------------|------|-----------------------|---------------|----------|----------|-----|-----|
|                |      |                       |               |          | 1        | 0   | 2   |
| 2              | 202  | DPST-NC               | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 2              | 120  | SPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 102  | SPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 2              | 210  | SPST-NO/<br>SPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | ---      | ---      | --- | --- |
| 2              | 201  | SPST-NO/<br>SPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | ---      | ---      | --- | --- |
|                |      |                       | 3             | NO       |          |     | ON  |
| 2              | 012  | SPST-NO/<br>SPST-NC   | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 2              | 021  | SPST-NO/<br>SPST-NC   | 1             | ---      | ---      | --- | --- |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 111  | 3PST-NO               | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 222  | 3PST-NC               | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 3              | 122  | SPST-NO/<br>DPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 3              | 212  | SPST-NO/<br>DPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NC       | ON       | ON  |     |
| 3              | 221  | SPST-NO/<br>DPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 211  | DPST-NO/<br>SPST-NC   | 1             | NC       |          | ON  | ON  |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 121  | DPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NC       |          | ON  |     |
|                |      |                       | 3             | NO       |          |     | ON  |
| 3              | 112  | DPST-NO/<br>SPST-NC   | 1             | NO       | ON       |     |     |
|                |      |                       | 2             | NO       | ON       |     | ON  |
|                |      |                       | 3             | NC       | ON       | ON  |     |

## Operation Angle

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

■ Specifications: Refer to page 12.  
■ Dimensions: Refer to page 41.



■ Characteristics: Refer to page 40.  
■ Precautions for correct use: Refer to pages 85 to 96.

# A22NK

## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.

### Two-position, Key-type Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                         | (3) Reset method                        | (5) Key release positions               | (8)(8)(8) Contact configuration |
|---|----------------|----------------|-------------------------------|---|---|---------------------------------|
|  | 2B             | 1              | A22NK-2B(3)-01(5)A-G(8)(8)(8) | M: Manual<br>L: Automatic reset on left | A: All positions<br>B: Left<br>C: Right | 100                             |
|   |                |                | A22NK-2B(3)-01(5)A-P(8)(8)(8) |   |   | 002                             |
|   |                | 2              | A22NK-2B(3)-01(5)A-G(8)(8)(8) |   |   | 102                             |
|   |                |                | A22NK-2B(3)-01(5)A-P(8)(8)(8) |   |   | 101<br>202                      |
|   |                | 3              | A22NK-2B(3)-01(5)A-G(8)(8)(8) |   |   | 111                             |
|   |                |                | A22NK-2B(3)-01(5)A-P(8)(8)(8) |   |   | 222<br>122<br>112               |
|  | 2M             | 1              | A22NK-2M(3)-01(5)A-G(8)(8)(8) | M: Manual<br>L: Automatic reset on left | A: All positions<br>B: Left<br>C: Right | 100                             |
|   |                |                | A22NK-2M(3)-01(5)A-P(8)(8)(8) |   |   | 002                             |
|   |                | 2              | A22NK-2M(3)-01(5)A-G(8)(8)(8) |   |   | 102                             |
|   |                |                | A22NK-2M(3)-01(5)A-P(8)(8)(8) |   |   | 101<br>202                      |
|   |                | 3              | A22NK-2M(3)-01(5)A-G(8)(8)(8) |   |   | 111                             |
|   |                |                | A22NK-2M(3)-01(5)A-P(8)(8)(8) |   |   | 222<br>122<br>112               |

### Three-position, Key-type Selector Switches

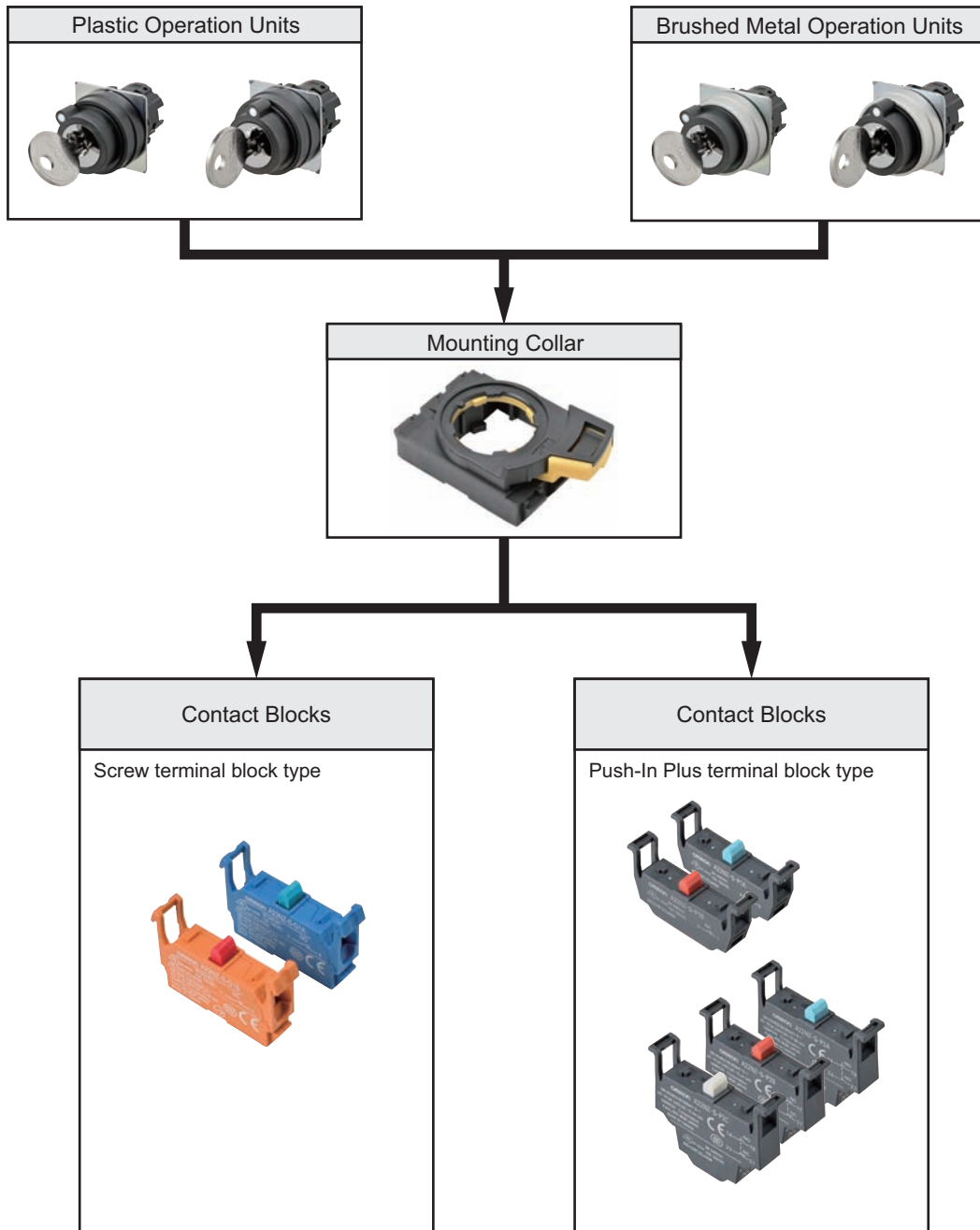
| Appearance  | Bezel material                | No. of outputs  | Model                         | (3) Reset method   | (5) Key release positions   | (8)(8)(8) Contact configuration   |                               |  |   |   |
|---|-------------------------------|---|-------------------------------|--|---|---|-------------------------------|--|---|---|
|  | 3B                            | 2   | A22NK-3B(3)-01(5)A-G(8)(8)(8) | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | A: All positions<br>B: Left<br>C: Right<br>D: Center<br>G: Left and right | 110   |                               |  |   |   |
|   |                               |   | A22NK-3B(3)-01(5)A-P(8)(8)(8) |  |   | 011<br>101<br>220<br>022<br>202<br>120<br>102<br>210<br>201<br>012<br>021 |                               |  |   |   |
|   |                               | 3   | A22NK-3B(3)-01(5)A-G(8)(8)(8) |  |   | 111   |                               |  |   |   |
|   |                               |   | A22NK-3B(3)-01(5)A-P(8)(8)(8) |  |   | 222<br>122<br>212<br>221<br>211<br>121<br>112                             |                               |  |   |   |
|   |                               |  | 3M                            |  |   | 2   | A22NK-3M(3)-01(5)A-G(8)(8)(8) | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | A: All positions<br>B: Left<br>C: Right<br>D: Center<br>G: Left and right | 110   |
|   |                               |   |                               |  |   |   | A22NK-3M(3)-01(5)A-P(8)(8)(8) |  |   | 011<br>101<br>220<br>022<br>202<br>120<br>102<br>210<br>201<br>012<br>021 |
| 3   | A22NK-3M(3)-01(5)A-G(8)(8)(8) |   |                               | 111  |   |   |                               |  |   |   |
|   | A22NK-3M(3)-01(5)A-P(8)(8)(8) |   |                               | 222<br>122<br>212<br>221<br>211<br>121<br>112  |   |   |                               |  |   |   |

■ Subassemblies: Refer to pages 37 to 38 and 82.  
 (You can order Operation Units, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 13 ■ Characteristics: Refer to page 40.  
 ■ Dimensions: Refer to page 41.  
 ■ Accessories and tools: Refer to pages 84 to 85.

## Ordering Information

**Subassemblies** - - - - You can order Operation Units, Mounting Collars, and Contact Blocks individually. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.



- Model numbers of sets: Refer to page 36.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 40.

- Dimensions: Refer to page 41.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# A22NK

## Ordering Information

### Subassemblies

-----You can order Operation Units, Mounting Collars, and Contact Blocks individually. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.

### Operation Units

| Bezel material and shape |                                   | Plastic          |  | Brushed metal    |  | (1)<br>Key release positions  |
|--------------------------|-----------------------------------|------------------|--|------------------|--|---|
|                          |                                   | Model            |  | Model            |  |   |
| No. of positions         | Reset method                      |                  |  |                  |  |   |
|                          |                                   |                  |  |                  |  |   |
| 2                        | Manual                            | A22NZ-2BM-01(1)A |  | A22NZ-2MM-01(1)A |  | A: All positions<br>B: Left<br>C: Right                                   |
|                          | Automatic reset on left           | A22NZ-2BL-01(1)A |  | A22NZ-2ML-01(1)A |  |   |
| 3                        | Manual                            | A22NZ-3BM-01(1)A |  | A22NZ-3MM-01(1)A |  | A: All positions<br>B: Left<br>C: Right<br>D: Center<br>G: Left and right |
|                          | Automatic reset on left           | A22NZ-3BL-01(1)A |  | A22NZ-3ML-01(1)A |  |   |
|                          | Automatic reset on right          | A22NZ-3BR-01(1)A |  | A22NZ-3MR-01(1)A |  |   |
|                          | Automatic reset on left and right | A22NZ-3BB-01(1)A |  | A22NZ-3MB-01(1)A |  |   |

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

- Model numbers of sets: Refer to page 36.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 40.

- Dimensions: Refer to page 41.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

## Specifications

### Certified Safety Standard Ratings

**UL 508 (File No. E76675), CSA C22.2 No.14**

6 A 240 VAC, 10 A 120 VAC

**TÜV (EN60947-5-1)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**CCC (GB/T14048.5)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

### Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

### Ratings

#### Contacts (Standard Load)

|                                 |                        |       |       |        |       |       |
|---------------------------------|------------------------|-------|-------|--------|-------|-------|
| <b>Rated insulation voltage</b> |                        | 600 V |       |        |       |       |
| <b>Rated carry current</b>      |                        | 10 A  |       |        |       |       |
| <b>Rated voltage</b>            |                        | 24 V  | 120 V | 240 V  | 380 V | 440 V |
| <b>AC at 50/60 Hz</b>           | 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 |
| <b>DC</b>                       | 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 ±2°C
- (2) Ambient humidity: 65% ±5% RH
- (3) Operating frequency: 30 operations/minute

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

Pushbutton Switches  
A22NSelector Switches  
A22NKey-Type Selector Switches  
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A30NSelector Switches  
A30NKey-Type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

## A22NK

## Specifications

## Characteristics

| Item  | Type                               | Key-type Selector Switches  |
|---|------------------------------------|---|
|   | Allowable operating frequency      | Mechanical  |
|   | 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. (initial value)  |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  |
| 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                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.)  |
|   | Electrical                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.) (250 VAC, 3 A, with an inductive load having power factor cos θ = 0.4) |
| Ambient operating temperature*1                   |                                    | -25 to 70°C   |
| Ambient operating humidity                        |                                    | 35% to 85% RH   |
| Ambient storage temperature*1                     |                                    | -40 to 80°C   |
| Degree of protection*2                            |                                    | Conforming to IP66, NEMA13  |
| Electric shock protection class                   |                                    | Class II  |
| PTI (tracking characteristic)                     |                                    | 175   |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)  |
| Weight  |                                    | Approx. 65 g (for 1NC/1NO)  |

\*1. With no icing or condensation.

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

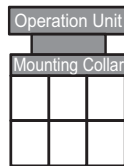
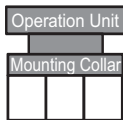
## Operating Characteristics (for SPST-NO/SPST-NC)

| Item                                      | Type | Key-type Selector Switches                         |                 |
|---|------|--|-----------------|
|   |      | Manual reset                                       | Automatic reset |
| Total travel force (torque) (maximum TTF) |      | 0.6 N·m  | 0.6 N·m         |
| Total travel (TT)                         |      | 2 positions: Approx. 90°, 3 positions: Approx. 45° |                 |
| Resetting force (torque) (RF)             |      | 0.5 N·m max.                                       | ---             |

## Examples of Linked Contact Blocks

## (Screw terminal block type)



|                 | Key-type Selector Switches  |   |
|-----------------|---|---|
|                 | 2 positions   | 3 positions   |
| 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.

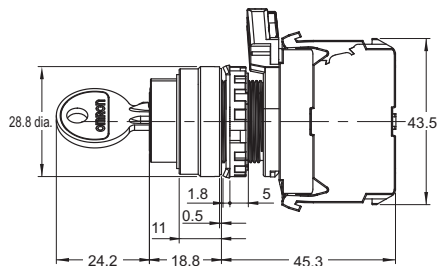
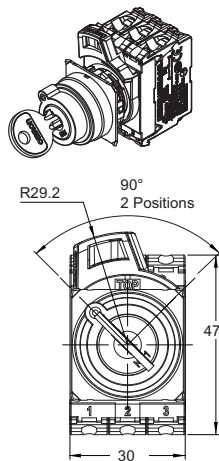
**Dimensions**

(Unit: mm)

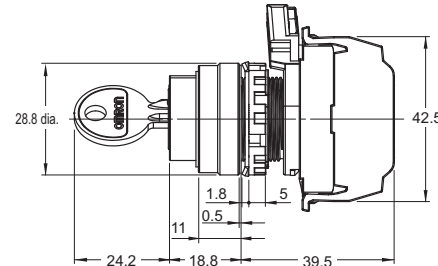
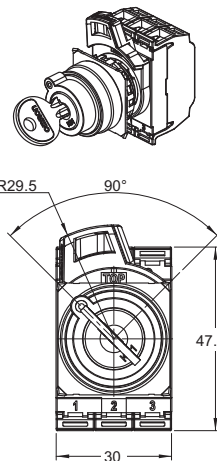
**Lighted and Non-lighted Key-type Selection Switches**

**Two-position Switches with Plastic Bezels**

**A22NK-2B□-01□A-G**

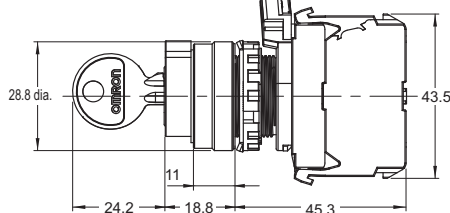
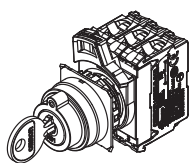


**A22NK-2B□-01□A-P**

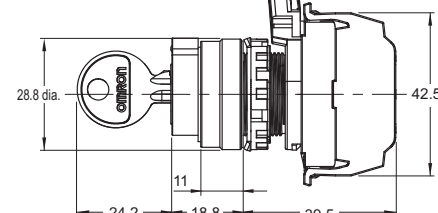
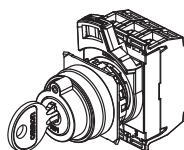


**Three-position Switches with Plastic Bezels**

**A22NK-3B□-01□A-G**

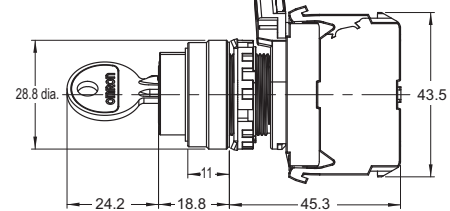
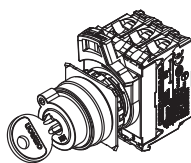


**A22NK-3B□-01□A-P**

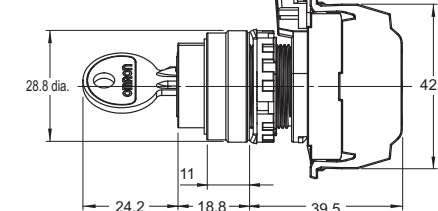
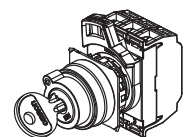


**Two-position Switches with Brushed Metal Bezels**

**A22NK-2M□-01□A-G**

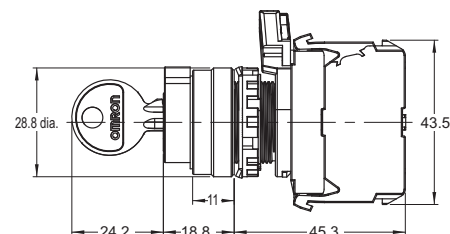
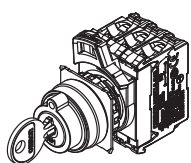


**A22NK-2M□-01□A-P**

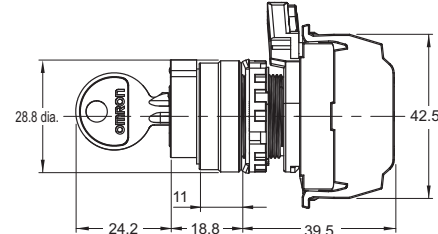
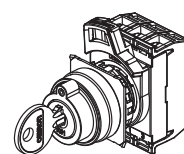


**Three-position Switches with Brushed Metal Bezels**

**A22NK-3M□-01□A-G**



**A22NK-3M□-01□A-P**



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

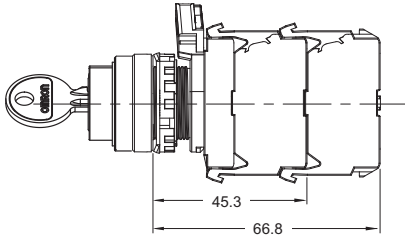
Subassemblies  
(Common)

Accessories  
and Tools

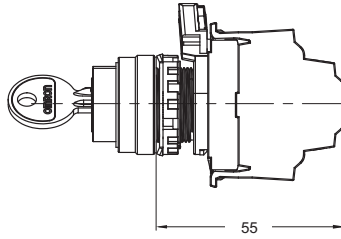
Safety  
Precautions

# A22NK

## Depth with Linked Units (Screw terminal block type)



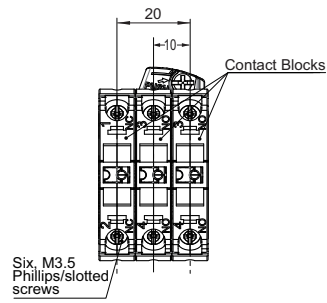
## Depth when a double-contact unit is mounted (Push-In Plus terminal block type)



## Terminal Arrangement

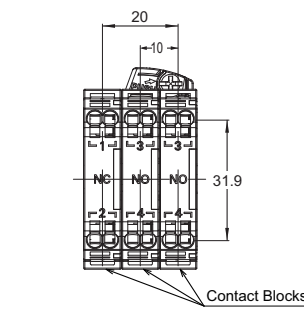
### BOTTOM VIEW (Screw terminal block type)

**2NO/1NC**  
Contact configuration code:112

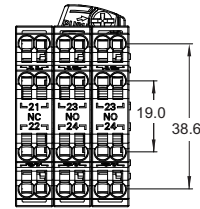


### BOTTOM VIEW (Push-in Plus terminal block type)

**2NO/1NC**  
Contact configuration code:112



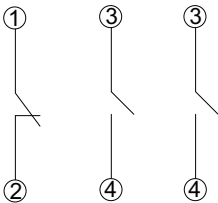
**Double-contact unit  
(2NO/2NO/2NC)**



## Terminal Connection Diagrams

**2NO/1NC**  
Contact configuration code:112

Bottom View



**Note:** The above shows a terminal connection diagram for a screw terminal block type.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# Indicators

## M22N

### 22-mm dia. Indicators

Control panel miniaturization through a more compact design and modified wiring direction.

Addition of Push-In Plus terminal blocks for easy wiring.

#### Easy to Use


- Improved wiring visibility through to a modified wiring direction. (Push-In Plus terminal block type)
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)

#### Miniaturization

- No need for extra lateral space because of the modified wiring direction. (Push-In Plus terminal block type)
- Compact design.

#### Product Lineup

- Meet global safety standards.
- Can be installed in two types of panel hole dimensions: 22.3 and 25.5 dia.
- The indicators come in a wide variety of colors and shapes.
- Standard-feature degree of protection: IP66, NEMA 4X, and NEMA 13.

 Refer to *Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions* on page 85.




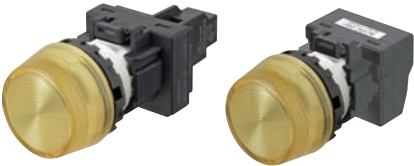

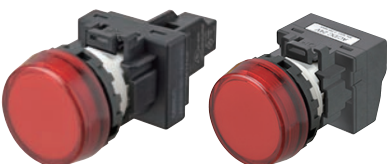
### Indicator Unit Colors

|              | Red   | Green   | Yellow  | White   | Blue  | Orange  | White   |
|--------------|---|---|---|---|---|---|---|
| When not lit |  |  |  |  |  |  |  |
| When lit     |  |  |  |  |  |  |  |

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

## M22N

## List of Models

| Screw Terminal Blocks/Push-In Plus Terminal Blocks  |         |
|---|---------|
| Appearance  | Model   |
| Plastic flat<br>           | M22N-BN |
| Plastic projected<br>      | M22N-BP |
| Plastic semi-spherical<br> | M22N-BG |
| Plastic flat etched<br>  | M22N-BC |

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

## Model Number Structure

**Model Number Legend** - -Shipped as a set that includes the Indicator Unit, LED Lamp, and Socket Unit.  
For information on combinations, refer to *Ordering Information* on page 46.

### Model Numbers for Sets

M 2 2 N - <sup>(1)</sup>BN - <sup>(2)</sup>TR <sup>(3)</sup>A - <sup>(4)</sup>R <sup>(5)</sup>A - <sup>(6)</sup>

#### (1) Indicator Unit Shape

| Code | Shape                  |
|------|------------------------|
| BN   | Plastic flat           |
| BP   | Plastic projected      |
| BG   | Plastic semi-spherical |
| BC   | Plastic flat etched    |

#### (2) Indicator Color and (4) LED Lamp Color

| Code (2) | Code (4) | Indicator color | LED Lamp color |
|----------|----------|-----------------|----------------|
| TR       | R        | Red             | Red            |
| TG       | G        | Green           | Green          |
| TY       | Y        | Yellow          | Yellow         |
| TW       | W        | White           | White          |
| TA       | A        | Blue            | Blue           |
| TO       | O        | Orange          | Orange         |
| TW       | Y        | White*          | Yellow         |

\* The color is opaque white when the Indicator is lit.

#### (3) Degree of Protection

| Code | Protection                          |
|------|-------------------------------------|
| A    | Conforming to IP66, NEMA 4X, NEMA13 |

#### (5) LED Lamp Voltage

| Code | LED Lamp voltage    |
|------|---------------------|
| A    | 6 VAC/DC            |
| B    | 12 VAC/DC           |
| C    | 24 VAC/DC           |
| D    | 100/110/120 VAC     |
| E    | 200/220/230/240 VAC |

#### (6) Terminals Specifications

| Code    | Specification               |
|---------|-----------------------------|
| No Code | Screw Terminal Block        |
| P       | Push-In Plus Terminal Block |

- Specifications: Refer to page 47.
- Accessories and tools: Refer to pages 80 to 81.

- Dimensions: Refer to page 48.
- Precautions for correct use: Refer to pages 85 to 96.

Pushbutton Switches  
A22NSelector Switches  
A22NKey-Type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-Type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

## M22N

## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Indicator Unit, LED Lamp, and Socket Unit.

## Indicators

| Appearance  | Rated voltage  | Model  | (2)(2)<br>Indicator color   | (4)<br>LED lamp color |  |
|---|--|--|---|-----------------------|--|
| Plastic flat<br>             | 6 VAC/DC   | M22N-BN-(2)(2)A-(4)A<br>M22N-BN-(2)(2)A-(4)A-P | TR: Transparent red<br>TG: Transparent green<br>TY: Transparent yellow<br>TW: Transparent white<br>TA: Transparent blue<br>TO: Transparent orange |                       |  |
|   | 12 VAC/DC  | M22N-BN-(2)(2)A-(4)B<br>M22N-BN-(2)(2)A-(4)B-P |   |                       |  |
|   | 24 VAC/DC  | M22N-BN-(2)(2)A-(4)C<br>M22N-BN-(2)(2)A-(4)C-P |   |                       |  |
|   | 100, 110, or 120 VAC   | M22N-BN-(2)(2)A-(4)D<br>M22N-BN-(2)(2)A-(4)D-P |   |                       |  |
|   | 200, 220, 230, or 240 VAC  | M22N-BN-(2)(2)A-(4)E<br>M22N-BN-(2)(2)A-(4)E-P |   |                       |  |
|   | Plastic projected<br>     | 6 VAC/DC                                       |   |                       | M22N-BP-(2)(2)A-(4)A<br>M22N-BP-(2)(2)A-(4)A-P |
|   |  | 12 VAC/DC                                      |   |                       | M22N-BP-(2)(2)A-(4)B<br>M22N-BP-(2)(2)A-(4)B-P |
|   |  | 24 VAC/DC                                      |   |                       | M22N-BP-(2)(2)A-(4)C<br>M22N-BP-(2)(2)A-(4)C-P |
|   |  | 100, 110, or 120 VAC                           |   |                       | M22N-BP-(2)(2)A-(4)D<br>M22N-BP-(2)(2)A-(4)D-P |
|   |  | 200, 220, 230, or 240 VAC                      |   |                       | M22N-BP-(2)(2)A-(4)E<br>M22N-BP-(2)(2)A-(4)E-P |
| Plastic semi-spherical<br> |  | 6 VAC/DC                                       |   |                       | M22N-BG-(2)(2)A-(4)A<br>M22N-BG-(2)(2)A-(4)A-P |
|   |  | 12 VAC/DC                                      |   |                       | M22N-BG-(2)(2)A-(4)B<br>M22N-BG-(2)(2)A-(4)B-P |
|   |  | 24 VAC/DC                                      |   |                       | M22N-BG-(2)(2)A-(4)C<br>M22N-BG-(2)(2)A-(4)C-P |
|   |  | 100, 110, or 120 VAC                           |   |                       | M22N-BG-(2)(2)A-(4)D<br>M22N-BG-(2)(2)A-(4)D-P |
|   |  | 200, 220, 230, or 240 VAC                      |   |                       | M22N-BG-(2)(2)A-(4)E<br>M22N-BG-(2)(2)A-(4)E-P |
|   | Plastic flat etched<br> | 6 VAC/DC                                       |   |                       | M22N-BC-(2)(2)A-(4)A<br>M22N-BC-(2)(2)A-(4)A-P |
|   |  | 12 VAC/DC                                      |   |                       | M22N-BC-(2)(2)A-(4)B<br>M22N-BC-(2)(2)A-(4)B-P |
|   |  | 24 VAC/DC                                      |   |                       | M22N-BC-(2)(2)A-(4)C<br>M22N-BC-(2)(2)A-(4)C-P |
|   |  | 100, 110, or 120 VAC                           |   |                       | M22N-BC-(2)(2)A-(4)D<br>M22N-BC-(2)(2)A-(4)D-P |
|   |  | 200, 220, 230, or 240 VAC                      |   |                       | M22N-BC-(2)(2)A-(4)E<br>M22N-BC-(2)(2)A-(4)E-P |

**Note:** Normally, the Indicator Unit and LED Lamp with the same color are combined.

However, opaque white is available by combining a white Indicator Unit and yellow LED. M22N-B□-TWA-Y□-□

■ Specifications: Refer to page 47.

■ Accessories and tools: Refer to pages 80 to 81.

■ Dimensions: Refer to page 48.

■ Precautions for correct use: Refer to pages 85 to 96.

## Ratings and Specifications

### Certified Standard Ratings

#### UL508 (File No.E76675), CSA C22.2 No.14

12 mA 6 VAC/DC  
12 mA 12 VAC/DC  
12 mA 24 VAC/DC  
12 mA 100-120 VAC  
12 mA 200-240 VAC

#### TÜV (EN60947-5-1)

80 mA 6 VAC/DC  
40 mA 12 VAC/DC  
20 mA 24 VAC/DC  
10 mA 100-120 VAC  
5 mA 200-240 VAC

#### CCC (GB/T14048.5)

6, 12, 24 VAC/DC  
100-120, 200-240 VAC

### Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

## Ratings

### LED Lamps

| Rated voltage | Applied voltage | Current   |
|---------------|-----------------|---|
| 6 VAC/DC      | 6 VAC/DC ±10%   | Approx. 11 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 12 VAC/DC     | 12 VAC/DC ±10%  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 24 VAC/DC     | 24 VAC/DC ±10%  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 100 VAC       | 100 VAC ±10%    | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 110 VAC       | 110 VAC ±10%    |   |
| 120 VAC       | 100-130 VAC     |   |
| 200 VAC       | 200 VAC ±10%    | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 220 VAC       | 220 VAC ±10%    |   |
| 230 VAC       | 230 VAC ±10%    |   |
| 240 VAC       | 220-250 VAC     |   |

## Characteristics

| Item  | Type                               | Indicator  |
|---|------------------------------------|--|
| Allowable operating frequency                     | Mechanical                         | ---  |
|   | Electrical                         | ---  |
| Insulation resistance                             |                                    | ---  |
| Contact resistance                                |                                    | ---  |
| Dielectric strength                               | Between terminals of same polarity | ---  |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value) |
| Vibration resistance                              | Malfunction                        | 10 to 55 Hz, 1.5-mm double amplitude             |
| Shock resistance                                  | Malfunction                        | 1,000 m/s <sup>2</sup> max.                      |
| Durability  | Mechanical                         | ---  |
|   | Electrical                         | ---  |
| Ambient operating temperature <sup>*1</sup>       |                                    | -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>                |                                    | Conforming to IP66, NEMA 4X, NEMA13              |
| Electric shock protection class                   |                                    | Class II   |
| PTI (tracking characteristic)                     |                                    | 175  |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)                                 |
| Weight  |                                    | Approx. 30 g                                     |

\*1. With no icing or condensation.

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

# M22N

## Dimensions

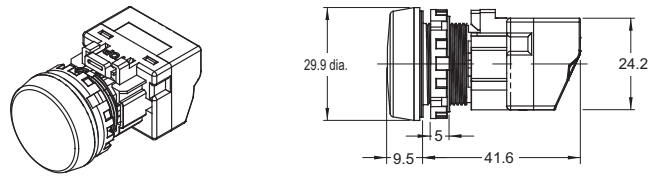
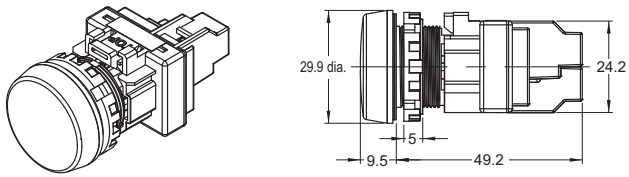
(Unit: mm)

### Indicators

#### Plastic Flat Indicators

M22N-BN-□□A-□□

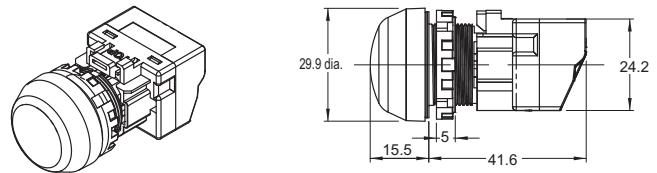
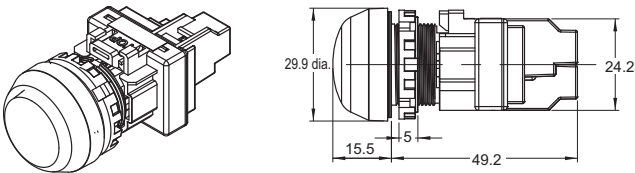
M22N-BN-□□A-□□-P



#### Plastic Semi-spherical Indicators

M22N-BG-□□A-□□

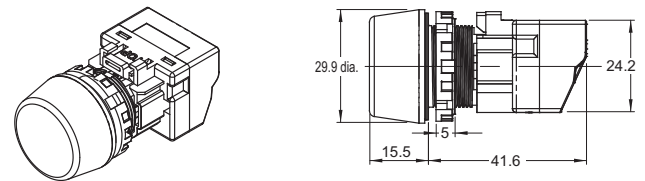
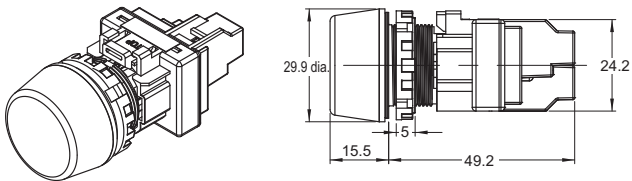
M22N-BG-□□A-□□-P



#### Plastic Projected Indicators

M22N-BP-□□A-□□

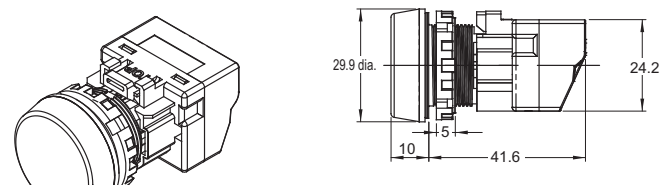
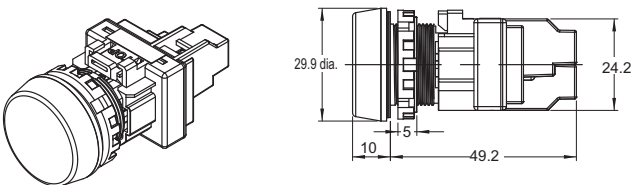
M22N-BP-□□A-□□-P



#### Plastic Flat Etched Indicators

M22N-BC-□□A-□□

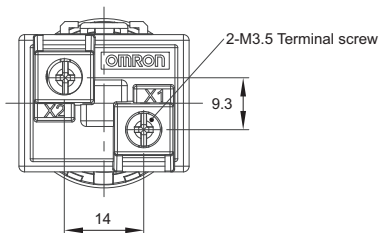
M22N-BC-□□A-□□-P



### Terminal Arrangement

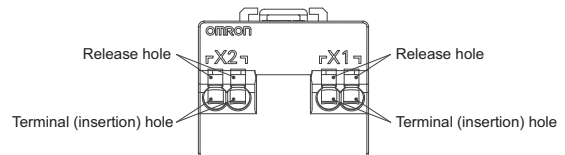
#### BOTTOM VIEW

##### Screw terminal block type



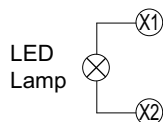
#### BOTTOM VIEW

##### Push-in Plus terminal block type



### Terminal Connection Diagrams

#### Screw terminal block type Push-in Plus terminal block type



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# Pushbutton Switches A30NN/A30NL

**30-mm dia. Pushbutton Switches**  
**Control panel miniaturization through a more compact design and modified wiring direction.**  
**Addition of Push-In Plus terminal blocks for easy wiring.**  
**Workability and safety improvements.**



**Easy to Use**

- You can connect up to three Contact Blocks in one stage for multistage expansion. (Screw terminal block type)
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)
- The terminals can be secured even when a contact block is mounted. (Screw terminal block type)
- Contact Blocks can be attached in any direction for easy assembly.

**Safety**

- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

**Product Lineup**

- The buttons and bezels come in a wide variety of colors and shapes.

Refer to *Safety Precautions for All Pushbutton Switches/ Indicators and Safety Precautions* on page 85.

## Button Colors

| Non-lighted Switches | A30NN-□□□-N□<br>Opaque      |  | Red          | Green | Yellow | White | Blue   | Black |      |        |               |
|----------------------|-----------------------------|--|--------------|-------|--------|-------|--------|-------|------|--------|---------------|
|                      |                             |  |              |       |        |       |        |       |      |        |               |
| Lighted Switches     | A30NL-□□□-T□<br>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).

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# A30NN/A30NL

## List of Models

Screw Terminal Blocks/Push-In Plus Terminal Blocks

Brushed metal bezels

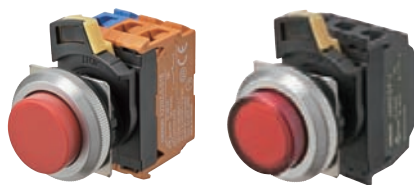
A30N□-MN

Flat



A30N□-MP

Projected



A30N□-MG

Full guard



A30N□-MM

Mushroom



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

## Model Number Structure

**Model Number Legend** - - - Please order Operation Units, LED lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. LED lamps, Mounting Collars, Contact Blocks, Lighting Units, and Lock Ring can also be used with the A22N series.

### Model Numbers for Sets

A 30 N <sup>(1)</sup> L - <sup>(2)</sup> MN <sup>(3)</sup> M - <sup>(4)</sup> TR <sup>(5)</sup> A - <sup>(6)</sup> G <sup>(7)</sup> 100 - <sup>(8)</sup> R <sup>(9)</sup> B

#### (1) Type

| Code | Description |
|------|-------------|
| N    | Non-lighted |
| L    | Lighted     |

#### (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 | Function                         |
|------|----------------------------------|
| M    | Momentary Action: Self-Resetting |
| A    | Alternate Action: Self-Holding   |

#### (4) Button Transparency and Color and (8) LED Lamp Color

| Lighted/non-lighted | Code (4) | Code (8) | Transparency | Button color | LED lamp color |
|---------------------|----------|----------|--------------|--------------|----------------|
| Non-lighted         | NR       | N        | Opaque       | Red          | ---            |
|                     | NG       | N        | Opaque       | Green        |                |
|                     | NY       | N        | Opaque       | Yellow       |                |
|                     | NW       | N        | Opaque       | White        |                |
|                     | NA       | N        | Opaque       | Blue         |                |
|                     | NB       | N        | Opaque       | Black        |                |
| Lighted             | TR       | R        | Transparent  | Red          | Red            |
|                     | TG       | G        | Transparent  | Green        | Green          |
|                     | TY       | Y        | Transparent  | Yellow       | Yellow         |
|                     | TW       | W        | Transparent  | White        | White          |
|                     | TA       | A        | Transparent  | Blue         | Blue           |
|                     | TO       | O        | Transparent  | Orange       | Orange         |
|                     | TW       | Y        | Transparent  | White *      | Yellow         |

\* The color is opaque white when the Switch is lit.

#### (5) Degree of Protection

| Code | Description                          |
|------|--------------------------------------|
| A    | Conforming to IP66, NEMA 4X, NEMA 13 |

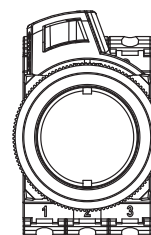
#### (6) Contacts and Terminals Specifications

| Code | Specification                       |
|------|-------------------------------------|
| G    | General/Screw Terminal Block        |
| P    | General/Push-In Plus Terminal Block |

#### (7) Contacts

| Code | Contact Blocks |    | Unit position |     |     |         |               |     |
|------|----------------|----|---------------|-----|-----|---------|---------------|-----|
|      |                |    | Non-lighted   |     |     | Lighted |               |     |
|      | NO             | NC | 1             | 2   | 3   | 1       | 2             | 3   |
| 100  | 1              | 0  | NO            | --- | --- | NO      | Lighting Unit | --- |
| 002  | 0              | 1  | ---           | --- | NC  | ---     | Lighting Unit | NC  |
| 101  | 2              | 0  | NO            | --- | NO  | NO      | Lighting Unit | NO  |
| 102  | 1              | 1  | NO            | --- | NC  | NO      | Lighting Unit | NC  |
| 202  | 0              | 2  | NC            | --- | NC  | NC      | Lighting Unit | NC  |
| 111  | 3              | 0  | NO            | NO  | NO  |         |               |     |
| 112  | 2              | 1  | NO            | NO  | NC  |         |               |     |
| 122  | 1              | 2  | NO            | NC  | NC  |         |               |     |
| 222  | 0              | 3  | NC            | NC  | NC  |         |               |     |

**Note:** 1. NO (blue): Normally open, NC (orange): Normally closed.  
2. Refer to the following figure for Unit positions.



#### (9) LED Lamp Voltage

| Code | LED Lamp voltage    |
|------|---------------------|
| N    | Non-lighted         |
| A    | 6 VAC/DC            |
| B    | 12 VAC/DC           |
| C    | 24 VAC/DC           |
| D    | 100/110/120 VAC     |
| E    | 200/220/230/240 VAC |

■ Specifications: Refer to page 56.  
■ Subassemblies (Common): Refer to page 78.  
■ Precautions for correct use: Refer to pages 85 to 96.


■ Dimensions: Refer to page 58.  
■ Accessories and tools: Refer to pages 80 to 81.

# A30NN/A30NL


## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).


### Non-lighted, Flat Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
|  | 1        | A30NN-MNM-(4)(4)A-G(7)(7)-NN      | A30NN-MNA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A30NN-MNM-(4)(4)A-P(7)(7)-NN      | A30NN-MNA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A30NN-MNM-(4)(4)A-G(7)(7)-NN      | A30NN-MNA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A30NN-MNM-(4)(4)A-P(7)(7)-NN      | A30NN-MNA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A30NN-MNM-(4)(4)A-G(7)(7)-NN      | A30NN-MNA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A30NN-MNM-(4)(4)A-P(7)(7)-NN      | A30NN-MNA-(4)(4)A-P(7)(7)-NN    |  |                          |


### Lighted, Flat Switches

| Appearance   | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|--|----------|-----------------------------------|----------------------------------|---|-----------------------|---|---|
|  |          | Model                             | Model                            |   |                       |   |   |
|  | 1        | A30NL-MNM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MNA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|  |          | A30NL-MNM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MNA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|  | 2        | A30NL-MNM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MNA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|  |          | A30NL-MNM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MNA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |

### Non-lighted, Projected Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
|  | 1        | A30NN-MPM-(4)(4)A-G(7)(7)-NN      | A30NN-MPA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A30NN-MPM-(4)(4)A-P(7)(7)-NN      | A30NN-MPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A30NN-MPM-(4)(4)A-G(7)(7)-NN      | A30NN-MPA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A30NN-MPM-(4)(4)A-P(7)(7)-NN      | A30NN-MPA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A30NN-MPM-(4)(4)A-G(7)(7)-NN      | A30NN-MPA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A30NN-MPM-(4)(4)A-P(7)(7)-NN      | A30NN-MPA-(4)(4)A-P(7)(7)-NN    |  |                          |

### Lighted, Projected Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------|-----------------------------------|----------------------------------|---|-----------------------|---|---|
|   |          | Model                             | Model                            |   |                       |   |   |
|  | 1        | A30NL-MPM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MPA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |          | A30NL-MPM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MPA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A30NL-MPM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MPA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A30NL-MPM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MPA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |

**Note:** Normally, the Button and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Button and yellow LED. A30N□-□□□-TWA-□□□□-Y□


■ Subassemblies: Refer to pages 55 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 56. ■ Dimensions: Refer to page 58.  
 ■ Accessories and tools: Refer to pages 80 to 81.


## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp (lighted models only), Mounting Collar, Contact Block, and Lighting Unit (lighted models only).


### Non-lighted, Full-guard Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
| Brushed metal bezels<br> | 1        | A30NN-MGM-(4)(4)A-G(7)(7)-NN      | A30NN-MGA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A30NN-MGM-(4)(4)A-P(7)(7)-NN      | A30NN-MGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A30NN-MGM-(4)(4)A-G(7)(7)-NN      | A30NN-MGA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A30NN-MGM-(4)(4)A-P(7)(7)-NN      | A30NN-MGA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A30NN-MGM-(4)(4)A-G(7)(7)-NN      | A30NN-MGA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A30NN-MGM-(4)(4)A-P(7)(7)-NN      | A30NN-MGA-(4)(4)A-P(7)(7)-NN    |  |                          |


### Lighted, Full-guard Switches

| Appearance   | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|--|----------|-----------------------------------|----------------------------------|---|-----------------------|---|---|
|  |          | Model                             | Model                            |   |                       |   |   |
| Brushed metal bezels<br> | 1        | A30NL-MGM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MGA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|  |          | A30NL-MGM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MGA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|  | 2        | A30NL-MGM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MGA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|  |          | A30NL-MGM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MGA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |

### Non-lighted, Mushroom Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (4)(4)<br>Button color   | (7)(7)(7)<br>Contacts    |
|---|----------|-----------------------------------|---------------------------------|--|--------------------------|
|   |          | Model                             | Model                           |  |                          |
| Brushed metal bezels<br> | 1        | A30NN-MMM-(4)(4)A-G(7)(7)-NN      | A30NN-MMA-(4)(4)A-G(7)(7)-NN    | NR: Opaque, red<br>NG: Opaque, green<br>NY: Opaque, yellow<br>NW: Opaque, white<br>NA: Opaque, blue<br>NB: Opaque, black | 100<br>002               |
|   |          | A30NN-MMM-(4)(4)A-P(7)(7)-NN      | A30NN-MMA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 2        | A30NN-MMM-(4)(4)A-G(7)(7)-NN      | A30NN-MMA-(4)(4)A-G(7)(7)-NN    |  | 101<br>102<br>202        |
|   |          | A30NN-MMM-(4)(4)A-P(7)(7)-NN      | A30NN-MMA-(4)(4)A-P(7)(7)-NN    |  |                          |
|   | 3        | A30NN-MMM-(4)(4)A-G(7)(7)-NN      | A30NN-MMA-(4)(4)A-G(7)(7)-NN    |  | 111<br>112<br>122<br>222 |
|   |          | A30NN-MMM-(4)(4)A-P(7)(7)-NN      | A30NN-MMA-(4)(4)A-P(7)(7)-NN    |  |                          |

### Lighted, Mushroom Switches

| Appearance  | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (4)(4)<br>Button color  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------|-----------------------------------|----------------------------------|---|-----------------------|---|---|
|   |          | Model                             | Model                            |   |                       |   |   |
| Brushed metal bezels<br> | 1        | A30NL-MMM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MMA-(4)(4)A-G(7)(7)-(8)(9) | TR: Transparent, red<br>TG: Transparent, green<br>TY: Transparent, yellow<br>TW: Transparent, white<br>TA: Transparent, blue<br>TO: Transparent, orange | 100<br>002            | R: Red<br>G: Green<br>Y: Yellow<br>W: White<br>A: Blue<br>O: Orange | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |          | A30NL-MMM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MMA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |
|   | 2        | A30NL-MMM-(4)(4)A-G(7)(7)-(8)(9)  | A30NL-MMA-(4)(4)A-G(7)(7)-(8)(9) |   | 101<br>102<br>202     |   |   |
|   |          | A30NL-MMM-(4)(4)A-P(7)(7)-(8)(9)  | A30NL-MMA-(4)(4)A-P(7)(7)-(8)(9) |   |                       |   |   |

**Note:** Normally, the Button and LED Lamp with the same color are combined.  
 However, opaque white is available by combining a white Button and yellow LED. A30N□-□□□-TWA-□□□□-Y□

■ Subassemblies: Refer to pages 55 and 78.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 56. ■ Dimensions: Refer to page 58.  
 ■ Accessories and tools: Refer to pages 80 to 81.

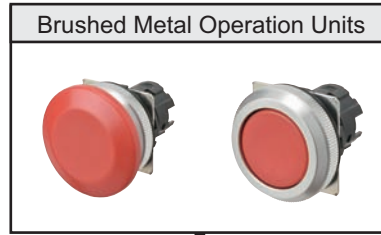
Pushbutton Switches  
A22N  
Selector Switches  
A22N  
Key-Type Selector Switches  
A22N  
Indicators  
M22N  
Pushbutton Switches  
A30N  
Selector Switches  
A30N  
Key-Type Selector Switches  
A30N  
Subassemblies (Common)  
Accessories and Tools  
Safety Precautions

# A30NN/A30NL

## Ordering Information

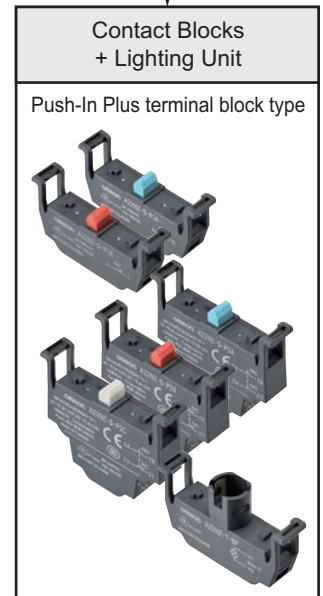
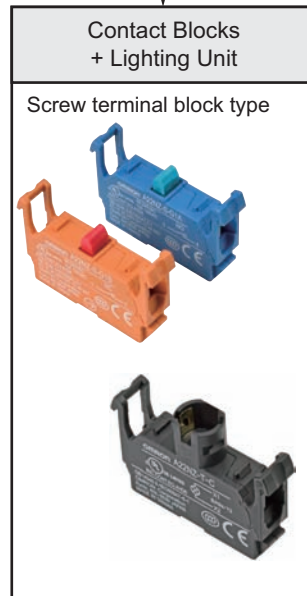
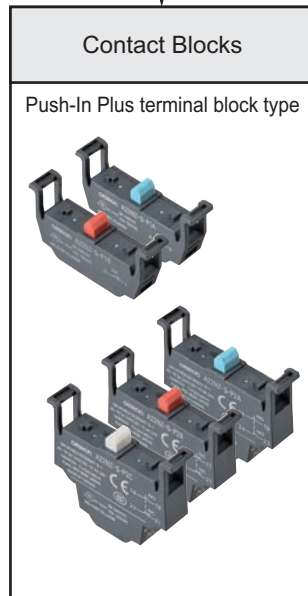
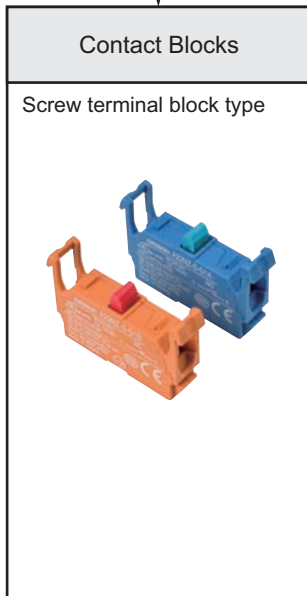
### Switch Structure

--- Please order Operation Units, LED lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. LED lamps, Mounting Collars, Contact Blocks, Lighting Units, and Lock Ring can also be used with the A22N series.



Non-lighted models

Lighted models



- Specifications: Refer to page 56.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.

- Dimensions: Refer to page 58.
- Accessories and tools: Refer to pages 80 to 81.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)



Accessories  
and Tools

Safety  
Precautions

## Ordering Information

**Subassemblies** - - - - Please order Operation Units, LED lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. LED lamps, Mounting Collars, Contact Blocks, Lighting Units, and Lock Ring can also be used with the A22N series.

### Operation Units

| Bezel material and button shape |               |        | Brushed metal, flat   |               | Brushed metal, projected  |               |
|---------------------------------|---------------|--------|---|---------------|---|---------------|
|                                 |               |        |  |               |  |               |
| Lighted/<br>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 |
| 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/<br>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 |
| 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 56.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.

- Dimensions: Refer to page 58.
- Accessories and tools: Refer to pages 80 to 81.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-Type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-Type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

# A30NN/A30NL

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

### Certified Safety Standard Ratings

**UL 508 (File No. E76675), CSA C22.2 No.14**

6 A 240 VAC, 10 A 120 VAC

**TÜV (EN60947-5-1)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**CCC (GB/T14048.5)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

### Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

### Ratings

#### Contacts (Standard Load)

|                                 |                        |       |       |        |       |       |
|---------------------------------|------------------------|-------|-------|--------|-------|-------|
| <b>Rated insulation voltage</b> |                        | 600 V |       |        |       |       |
| <b>Rated carry current</b>      |                        | 10 A  |       |        |       |       |
| <b>Rated voltage</b>            |                        | 24 V  | 120 V | 240 V  | 380 V | 440 V |
| <b>AC at 50/60 Hz</b>           | 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 |
| <b>DC</b>                       | 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)<br>Approx. 5 mA (white or green) |
| 12 VAC/DC     | 12 VAC/DC $\pm 10\%$ | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 24 VAC/DC     | 24 VAC/DC $\pm 10\%$ | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 100 VAC       | 100 VAC $\pm 10\%$   | Approx. 12 mA (red, orange, yellow, or blue)<br>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)<br>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 the Operation Unit, LED Lamp, Mounting Collar, Contact Blocks, and Lighting Unit 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)   | Not available for lighting units |
| Contact resistance                                |                                    | 100 mΩ max. (initial value)  |                                  |
| Dielectric strength                               | Between terminals of same polarity | 2,500 VAC at 50/60 Hz for 1 min. (initial value)   | Not available for lighting units |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value)   |                                  |
| 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.<br>Alternate action: 500,000 operations min.                   |                                  |
|   | Electrical                         | 500,000 operations min.<br>(250 VAC, 3 A, with an inductive load having power factor $\cos \theta = 0.4$ ) |                                  |
| 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>                |                                    | Conforming to IP66   |                                  |
| Electric shock protection class                   |                                    | Class II   |                                  |
| PTI (tracking characteristic)                     |                                    | 175  |                                  |
| Degree of contamination (application environment) |                                    | 3 (EN 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 (Screw terminal block type)

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.

# A30NN/A30NL

## Dimensions

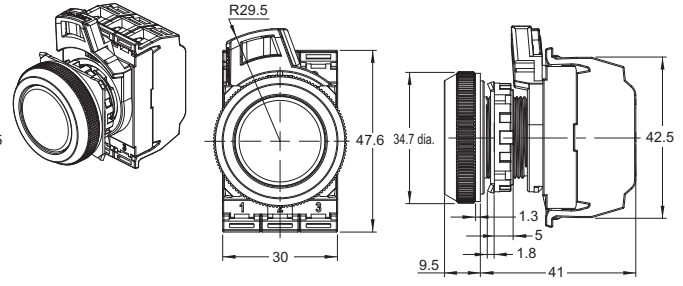
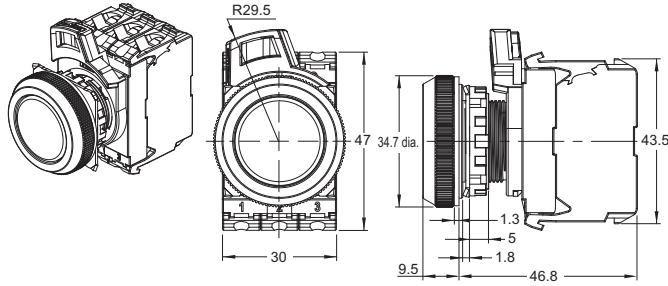
(Unit: mm)

### Lighted and Non-lighted Pushbutton Switches

#### Flat Switches with Brushed Metal Bezels

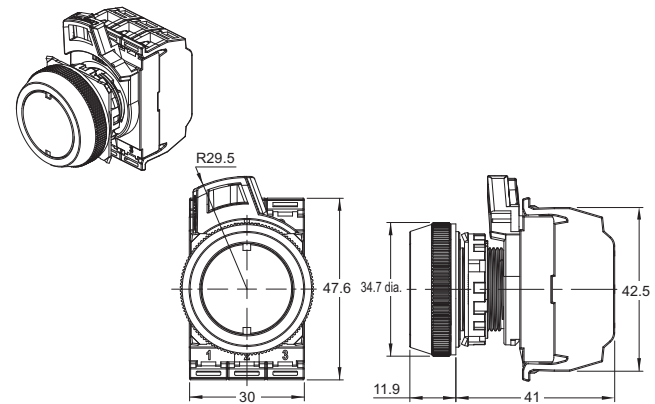
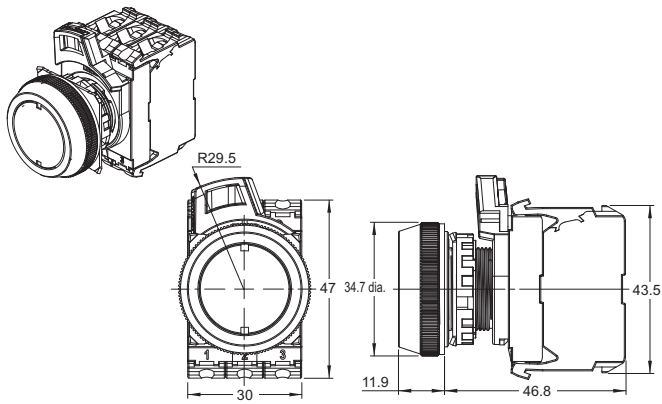
A30N□-MN□-N□A-G□-□□

A30N□-MN□-N□A-P□-□□



A30N□-MN□-T□A-G□-□□

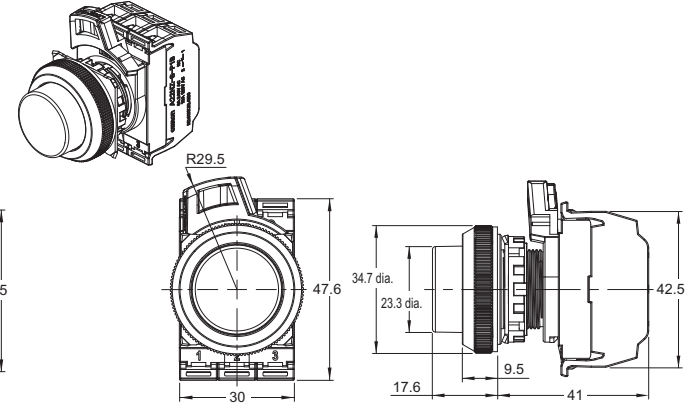
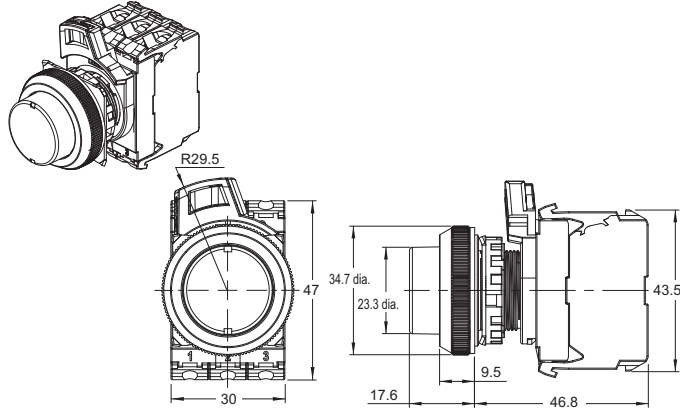
A30N□-MN□-T□A-P□-□□



#### Projected Switches with Brushed Metal Bezels

A30N□-MP□-□□A-G□-□□

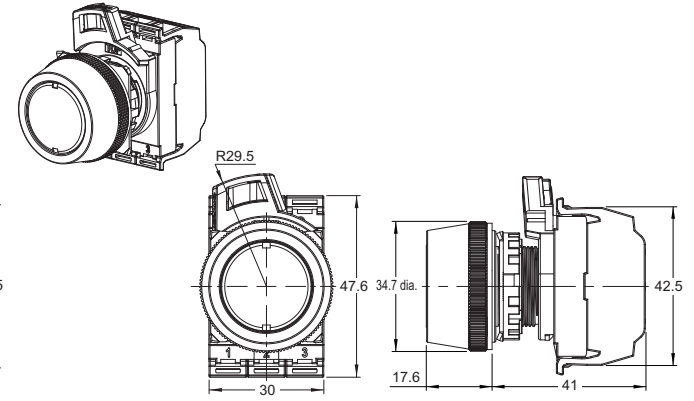
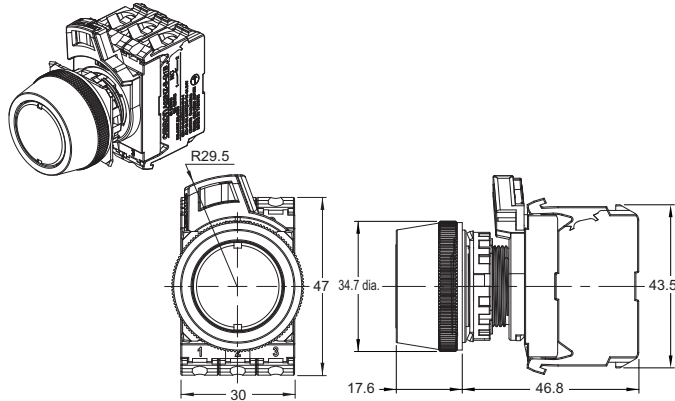
A30N□-MP□-□□A-P□-□□



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

A30N□-MG□-□□A-G□-□□

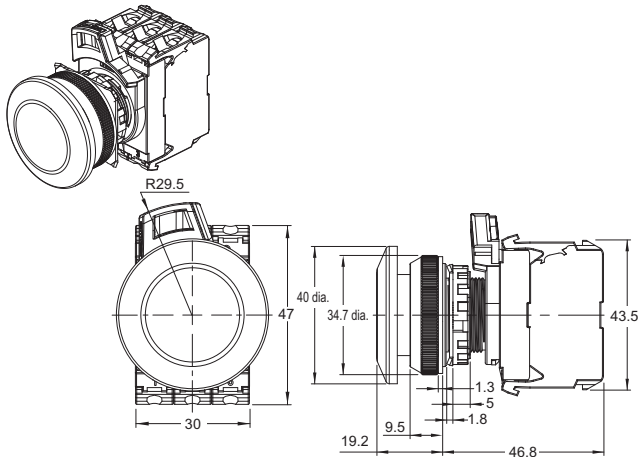
A30N□-MG□-□□A-P□-□□



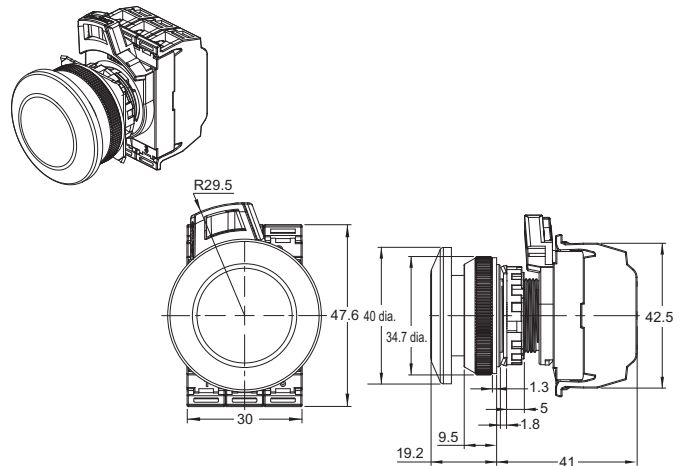
Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

**Mushroom Switches with Brushed Metal Bezels**

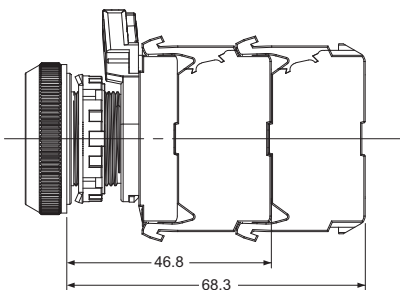
A30N□-MM□-□□A-G□-□□



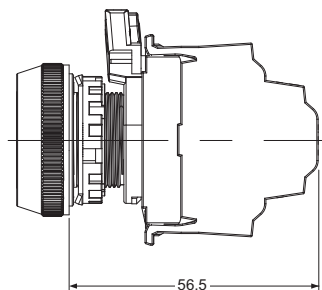
A30N□-MM□-□□A-P□-□□



**Depth with Linked Units  
(Screw terminal block type)**

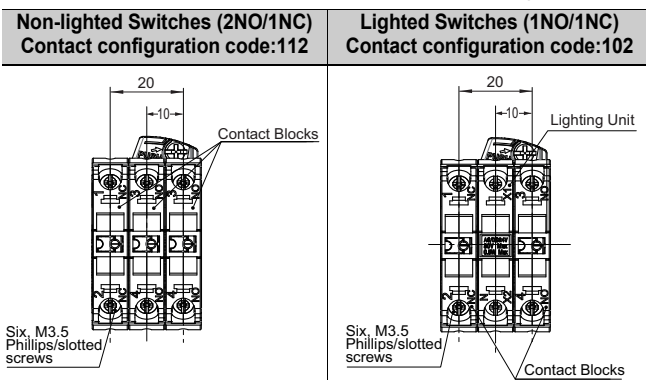


**Depth when a double-contact unit is mounted  
(Push-In Plus terminal block type)**

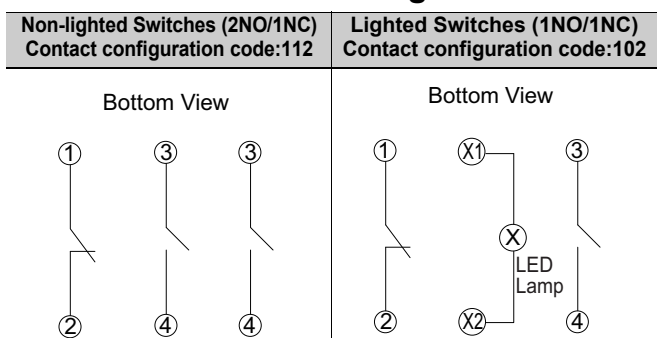


**Terminal Arrangement**

**BOTTOM VIEW (Screw terminal block type)**

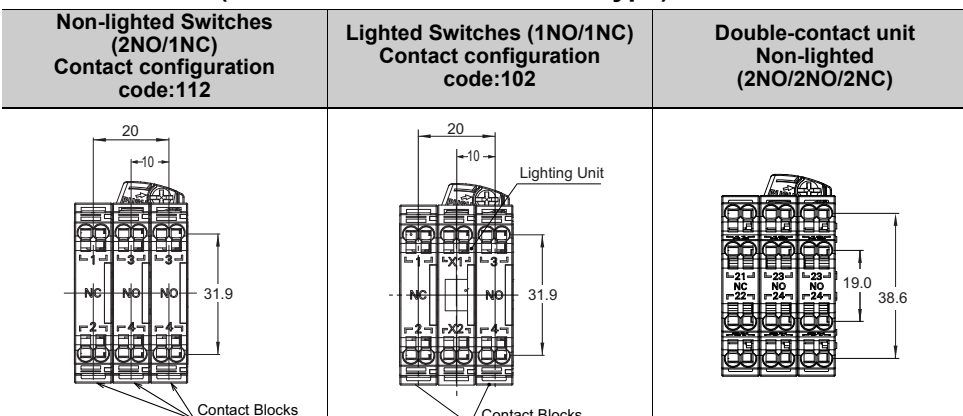


**Terminal Connection Diagrams**



**Note:** The above shows a terminal connection diagram for a screw terminal block type.

**BOTTOM VIEW (Push-In Plus terminal block type)**



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

# Selector Switches A30NS/A30NW

**30-mm dia. Knob-type Selector Switches**  
Control panel miniaturization through a more compact design and modified wiring direction.  
Addition of Push-In Plus terminal blocks for easy wiring.  
**Workability and safety improvements.**



### Easy to Use

- You can connect up to three Contact Blocks in one stage for multistage expansion. (Screw terminal block type)
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)

### Safety

- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

Refer to Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions on page 85.

### Product Lineup

- The buttons and bezels come in a wide variety of colors and shapes.

## Operation Unit Colors

| Non-lighted Switches | A30NS-□□□-N□<br>Opaque      | Red          |  |  | Green |  |  | Black |  |  |
|----------------------|-----------------------------|--------------|--|--|-------|--|--|-------|--|--|
|                      |                             |              |  |  |       |  |  |       |  |  |
| Lighted Switches     | A30NW-□□□-T□<br>Transparent | When not lit |  |  |       |  |  |       |  |  |
|                      |                             |              |  |  |       |  |  |       |  |  |
|                      |                             | When lit     |  |  |       |  |  |       |  |  |
|                      |                             |              |  |  |       |  |  |       |  |  |

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

## List of Models

| Screw Terminal Blocks/Push-In Plus Terminal Blocks |               |                 |                 |
|--|---------------|-----------------|-----------------|
| Brushed metal bezels                               |               |                 |                 |
| A30NS  |               | A30NW           |                 |
| Non-lighted  | Lighted       | Two Positions   | Three Positions |
| Two Positions                                      | Two Positions | Three Positions | Three Positions |
|  |               |                 |                 |

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# Model Number Structure

**Model Number Legend** - - - Please order Operation Units, LED lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. LED lamps, Mounting Collars, Contact Blocks, Lighting Units, and Lock Ring can also be used with the A22N series.

## Model Numbers for Sets

A 30 N <sup>(1)</sup> W - <sup>(2)</sup> 2M <sup>(3)</sup> M - <sup>(4)</sup> NR <sup>(5)</sup> A - <sup>(6)</sup> G <sup>(7)</sup> 101 - <sup>(8)</sup> R <sup>(9)</sup> A

### (1) Type

| Code | Type        |
|------|-------------|
| S    | Non-lighted |
| W    | Lighted     |

### (2) Number of Positions and Bezel Material

| Code | No. of positions | Bezel material |
|------|------------------|----------------|
| 2M   | 2                | Brushed metal  |
| 3M   | 3                | Brushed metal  |

### (3) Reset Method

| Code | Reset method                      |  |  |
|------|-----------------------------------|--|--|
| M    | Manual                            | Two-position manual                    |  |
|      |                                   | Three-position manual                  |  |
| L    | Automatic reset on left           | Two-position automatic                 |  |
|      |                                   | Three-position left automatic          |  |
| R    | Automatic reset on right          | Three-position right automatic         |  |
| B    | Automatic reset on left and right | Three-position left or right automatic |  |

### (4) Operation Unit Transparency and Color and (8) LED Lamp Color

| Lighted/non-lighted | Code (4) | Code (8) | Transparency | Operation Unit color | LED Lamp color |
|---------------------|----------|----------|--------------|----------------------|----------------|
| Non-lighted         | NR       | N        | Opaque       | Red                  | ---            |
|                     | NG       |          |              | Green                |                |
|                     | NB       |          |              | Black                |                |
| Lighted             | TR       | R        | Transparent  | Red                  | Red            |
|                     | TG       | G        |              | Green                | Green          |
|                     | TY       | Y        |              | Yellow               | Yellow         |
|                     | TW       | W        |              | White                | White          |
|                     | TA       | A        |              | Blue                 | Blue           |
|                     | TO       | O        |              | Orange               | Orange         |
|                     | TW       | Y        | White*       | Yellow               |                |

\* The color is opaque white when the Switch is lit.

### (5) Degree of Protection

| Code | Protection                          |
|------|-------------------------------------|
| A    | Conforming to IP66, NEMA 4X, NEMA13 |

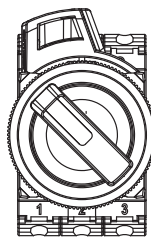
### (6) Contacts and Terminals Specifications

| Code | Specification                       |
|------|-------------------------------------|
| G    | General/Screw Terminal Block        |
| P    | General/Push-In Plus Terminal Block |

### (7) Contact Configuration

| Code | Contact Blocks |    | Non-lighted   |     |     |                  |                 |     | Lighted       |     |               |                  |  |
|------|----------------|----|---------------|-----|-----|------------------|-----------------|-----|---------------|-----|---------------|------------------|--|
|      |                |    | Unit position |     |     | No. of positions |                 |     | Unit position |     |               | No. of positions |  |
|      | NO             | NC | 1             | 2   | 3   | Two positions    | Three positions | 1   | 2             | 3   | Two positions | Three positions  |  |
| 100  | 1              | 0  | NO            | --- | --- | Yes              |                 | NO  | Lighting Unit | --- | Yes           |                  |  |
| 002  | 0              | 1  | ---           | --- | NC  | Yes              |                 | --- | Lighting Unit | NC  | Yes           |                  |  |
| 101  | 2              | 0  | NO            | --- | NO  | Yes              | Yes             | NO  | Lighting Unit | NO  | Yes           | Yes              |  |
| 102  | 1              | 1  | NO            | --- | NC  | Yes              | Yes             | NO  | Lighting Unit | NC  | Yes           | Yes              |  |
| 201  | 1              | 1  | NC            | --- | NO  |                  | Yes             | NC  | Lighting Unit | NO  |               | Yes              |  |
| 202  | 0              | 2  | NC            | --- | NC  | Yes              | Yes             | NC  | Lighting Unit | NC  | Yes           | Yes              |  |
| 110  | 2              | 0  | NO            | NO  | --- |                  | Yes             |     |               |     |               |                  |  |
| 111  | 3              | 0  | NO            | NO  | NO  | Yes              | Yes             |     |               |     |               |                  |  |
| 112  | 2              | 1  | NO            | NO  | NC  | Yes              | Yes             |     |               |     |               |                  |  |
| 210  | 1              | 1  | NC            | NO  | --- |                  | Yes             |     |               |     |               |                  |  |
| 211  | 2              | 1  | NC            | NO  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 212  | 1              | 2  | NC            | NO  | NC  |                  | Yes             |     |               |     |               |                  |  |
| 011  | 2              | 0  | ---           | NO  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 012  | 1              | 1  | ---           | NO  | NC  |                  | Yes             |     |               |     |               |                  |  |
| 120  | 1              | 1  | NO            | NC  | --- |                  | Yes             |     |               |     |               |                  |  |
| 121  | 2              | 1  | NO            | NC  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 122  | 1              | 2  | NO            | NC  | NC  | Yes              | Yes             |     |               |     |               |                  |  |
| 220  | 0              | 2  | NC            | NC  | --- |                  | Yes             |     |               |     |               |                  |  |
| 221  | 1              | 2  | NC            | NC  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 222  | 0              | 3  | NC            | NC  | NC  | Yes              | Yes             |     |               |     |               |                  |  |
| 021  | 1              | 1  | ---           | NC  | NO  |                  | Yes             |     |               |     |               |                  |  |
| 022  | 0              | 2  | ---           | NC  | NC  |                  | Yes             |     |               |     |               |                  |  |

**Note:** 1. NO (blue): Normally open, NC (orange): Normally closed.  
 2. Refer to the following figure for the Unit positions.  
 3. Refer to *Contact Configuration Table* on page 21.



### (9) LED Lamp Voltage

| Code | LED Lamp voltage    |
|------|---------------------|
| N    | Non-lighted         |
| A    | 6 VAC/DC            |
| B    | 12 VAC/DC           |
| C    | 24 VAC/DC           |
| D    | 100/110/120 VAC     |
| E    | 200/220/230/240 VAC |

- Specifications: Refer to page 56.
- Dimensions: Refer to page 68.
- Accessories and tools: Refer to pages 80 to 81.
- Characteristics: Refer to page 67.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.


Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-Type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-Type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

# A30NS/A30NW


## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.

### Non-lighted, Two-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                          | (3)<br>Reset method                     | (4)(4)<br>Operation Unit color                         | (7)(7)(7)<br>Contact configuration |
|---|----------------|----------------|--------------------------------|---|--|------------------------------------|
| Brushed metal bezels<br> | 2M             | 1              | A30NS-2M(3)-(4)(4)A-G(7)(7)-NN | M: Manual<br>L: Automatic reset on left | NR: Opaque red<br>NG: Opaque green<br>NB: Opaque black | 100<br>002                         |
|   |                |                | A30NS-2M(3)-(4)(4)A-P(7)(7)-NN |   |  |                                    |
|   |                | 2              | A30NS-2M(3)-(4)(4)A-G(7)(7)-NN |   |  | 111<br>222<br>122<br>112           |
|   |                |                | A30NS-2M(3)-(4)(4)A-P(7)(7)-NN |   |  |                                    |
|   |                | 3              | A30NS-2M(3)-(4)(4)A-G(7)(7)-NN |   |  |                                    |
|   |                |                | A30NS-2M(3)-(4)(4)A-P(7)(7)-NN |   |  |                                    |

### Non-lighted, Three-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                          | (3)<br>Reset method  | (4)(4)<br>Operation Unit color                         | (7)(7)(7)<br>Contact configuration   |
|---|----------------|----------------|--------------------------------|--|--|--|
| Brushed metal bezels<br> | 3M             | 2              | A30NS-3M(3)-(4)(4)A-G(7)(7)-NN | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | NR: Opaque red<br>NG: Opaque green<br>NB: Opaque black | 110<br>011<br>101<br>220<br>022<br>202<br>120<br>102<br>210<br>201<br>012<br>021 |
|   |                |                | A30NS-3M(3)-(4)(4)A-P(7)(7)-NN |  |  |  |
|   |                | 3              | A30NS-3M(3)-(4)(4)A-G(7)(7)-NN |  |  |  |
|   |                |                | A30NS-3M(3)-(4)(4)A-P(7)(7)-NN |  |  |  |


■ Subassemblies: Refer to pages 65 and 78.  
(You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 56. ■ Characteristics: Refer to page 67.  
■ Dimensions: Refer to page 68.  
■ Accessories and tools: Refer to pages 80 to 81.


## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, LED Lamp, Mounting Collar, Contact Block, and Lighting Unit.

### Lighted, Two-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                              | (3)<br>Reset method                     | (4)(4)<br>Operation Unit color  | (7)(7)(7)<br>Contact Configuration | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------------|----------------|------------------------------------|---|---|------------------------------------|---|---|
| Brushed metal bezels<br> | 2M             | 1              | A30NW-2M(3)-(4)(4)A-G(7)(7)-(8)(9) | M: Manual<br>L: Automatic reset on left | TR: Transparent red<br>TG: Transparent green<br>TY: Transparent yellow<br>TW: Transparent white<br>TA: Transparent blue<br>TO: Transparent orange | 100<br>002                         | R: Red<br>G: Green<br>Y: Yellow<br>A: Blue<br>O: Orange<br>W: White | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |                |                | A30NW-2M(3)-(4)(4)A-P(7)(7)-(8)(9) |   |   |                                    |   |   |
|   |                | 2              | A30NW-2M(3)-(4)(4)A-G(7)(7)-(8)(9) |   |   |                                    |   |   |
|   |                |                | A30NW-2M(3)-(4)(4)A-P(7)(7)-(8)(9) |   |   |                                    |   |   |

### Lighted, Three-position, Selector Switches

| Appearance  | Bezel material | No. of outputs | Model                              | (3)<br>Reset method  | (4)(4)<br>Operation Unit color  | (7)(7)(7)<br>Contact Configuration | (8)<br>LED Lamp color   | (9)<br>LED Lamp voltage   |
|---|----------------|----------------|------------------------------------|--|---|------------------------------------|---|---|
| Brushed metal bezels<br> | 3M             | 2              | A30NW-3M(3)-(4)(4)A-G(7)(7)-(8)(9) | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | TR: Transparent red<br>TG: Transparent green<br>TY: Transparent yellow<br>TW: Transparent white<br>TA: Transparent blue<br>TO: Transparent orange | 101<br>202<br>102<br>201           | R: Red<br>G: Green<br>Y: Yellow<br>A: Blue<br>O: Orange<br>W: White | A: 6 VAC/DC<br>B: 12 VAC/DC<br>C: 24 VAC/DC<br>D: 100/110/120 VAC<br>E: 200/220/230/240 VAC |
|   |                |                | A30NW-3M(3)-(4)(4)A-P(7)(7)-(8)(9) |  |   |                                    |   |   |

**Note:** Normally, the Operation Unit and LED Lamp with the same color are combined.

However, opaque white is available by combining a white Operation Unit and yellow LED. A30N□-□□□-TWA-□□□□-Y□

■ Subassemblies: Refer to pages 65 and 78.  
(You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 56. ■ Characteristics: Refer to page 67.  
■ Dimensions: Refer to page 68.  
■ Accessories and tools: Refer to pages 80 to 81.

# A30NS/A30NW

## Ordering Information

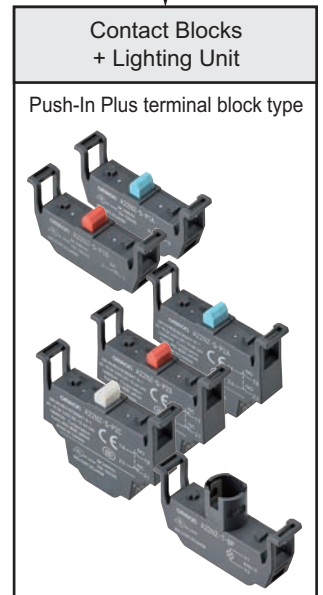
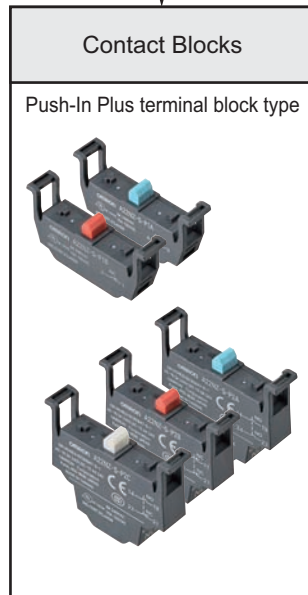
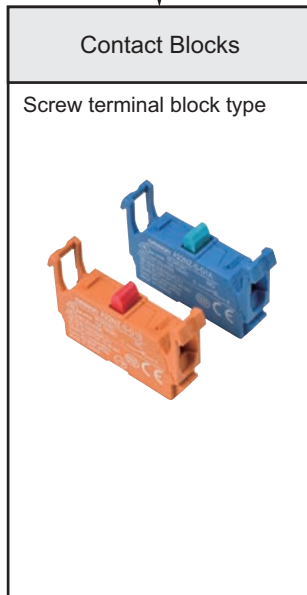
### Switch Structure

--- Please order Operation Units, LED lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. LED lamps, Mounting Collars, Contact Blocks, Lighting Units, and Lock Ring can also be used with the A22N series.



Non-lighted models

Lighted models



- Specifications: Refer to page 56.
- Dimensions: Refer to page 68.
- Accessories and tools: Refer to pages 80 to 81.

- Characteristics: Refer to page 67.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)





Accessories and Tools

Safety Precautions








# Ordering Information

**Subassemblies** - - - - Please order Operation Units, LED lamps (lighted models only), Mounting Collars, Contact Blocks, and Lighting Units (lighted models only) separately. LED lamps, Mounting Collars, Contact Blocks, Lighting Units, and Lock Ring can also be used with the A22N series.

## Operation Units Non-lighted Switches

| No. of positions | Reset method                      | Operation Unit color | Bezel material and shape  | Model         |
|------------------|-----------------------------------|----------------------|---|---------------|
|                  |                                   |                      |  |               |
| 2                | Manual                            | Opaque red           |  | A30NZ-2MM-NRA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-NRA |
| 3                | Manual                            |                      |   | A30NZ-3MM-NRA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-NRA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-NRA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-NRA |
| 2                | Manual                            | Opaque green         |  | A30NZ-2MM-NGA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-NGA |
| 3                | Manual                            |                      |   | A30NZ-3MM-NGA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-NGA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-NGA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-NGA |
| 2                | Manual                            | Opaque black         |  | A30NZ-2MM-NBA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-NBA |
| 3                | Manual                            |                      |   | A30NZ-3MM-NBA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-NBA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-NBA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-NBA |

## Lighted Switches

| No. of positions | Reset method                      | Operation Unit color | Bezel material and shape  | Model         |
|------------------|-----------------------------------|----------------------|---|---------------|
|                  |                                   |                      |  |               |
| 2                | Manual                            | Transparent red      |  | A30NZ-2MM-TRA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-TRA |
| 3                | Manual                            |                      |   | A30NZ-3MM-TRA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-TRA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-TRA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-TRA |
| 2                | Manual                            | Transparent green    |  | A30NZ-2MM-TGA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-TGA |
| 3                | Manual                            |                      |   | A30NZ-3MM-TGA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-TGA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-TGA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-TGA |
| 2                | Manual                            | Transparent yellow   |  | A30NZ-2MM-TYA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-TYA |
| 3                | Manual                            |                      |   | A30NZ-3MM-TYA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-TYA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-TYA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-TYA |
| 2                | Manual                            | Transparent white    |  | A30NZ-2MM-TWA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-TWA |
| 3                | Manual                            |                      |   | A30NZ-3MM-TWA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-TWA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-TWA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-TWA |
| 2                | Manual                            | Transparent blue     |  | A30NZ-2MM-TAA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-TAA |
| 3                | Manual                            |                      |   | A30NZ-3MM-TAA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-TAA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-TAA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-TAA |
| 2                | Manual                            | Transparent orange   |  | A30NZ-2MM-TOA |
|                  | Automatic reset on left           |                      |   | A30NZ-2ML-TOA |
| 3                | Manual                            |                      |   | A30NZ-3MM-TOA |
|                  | Automatic reset on left           |                      |   | A30NZ-3ML-TOA |
|                  | Automatic reset on right          |                      |   | A30NZ-3MR-TOA |
|                  | Automatic reset on left and right |                      |   | A30NZ-3MB-TOA |

- Specifications: Refer to page 56.
- Dimensions: Refer to page 68.
- Accessories and tools: Refer to pages 80 to 81.

- Characteristics: Refer to page 67.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

**A30NS/A30NW****Specifications****Certified Safety Standard Ratings****UL 508 (File No. E76675), CSA C22.2 No.14**

6 A 240 VAC, 10 A 120 VAC

**TÜV (EN60947-5-1)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**CCC (GB/T14048.5)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**Application Standards**

UL1059 and UL486E (Push-In Plus terminal block type)

**Ratings****Contacts (Standard Load)**

|                                 |                        |       |       |        |       |       |
|---------------------------------|------------------------|-------|-------|--------|-------|-------|
| <b>Rated insulation voltage</b> |                        | 600 V |       |        |       |       |
| <b>Rated carry current</b>      |                        | 10 A  |       |        |       |       |
| <b>Rated voltage</b>            |                        | 24 V  | 120 V | 240 V  | 380 V | 440 V |
| <b>AC at 50/60 Hz</b>           | 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 |
| <b>DC</b>                       | 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 ±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)<br>Approx. 5 mA (white or green) |
| 12 VAC/DC     | 12 VAC/DC ±10%  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 24 VAC/DC     | 24 VAC/DC ±10%  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 100 VAC       | 100 VAC ±10%    | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 110 VAC       | 110 VAC ±10%    |   |
| 120 VAC       | 100 to 130 VAC  |   |
| 200 VAC       | 200 VAC ±10%    | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 220 VAC       | 220 VAC ±10%    |   |
| 230 VAC       | 230 VAC ±10%    |   |
| 240 VAC       | 220 to 250 VAC  |   |

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

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

### Characteristics

| Item  | Type                               | Selector Switches   |                                  |
|---|------------------------------------|---|----------------------------------|
|   |                                    | Non-lighted models  | Lighted models                   |
| Allowable operating frequency                     | Mechanical                         | 30 operations/minute max.   |                                  |
|   | Electrical                         | 30 operations/minute max.   |                                  |
| Insulation resistance                             |                                    | 100 MΩ min. (at 500 VDC)  | Not available for lighting units |
| Contact resistance                                |                                    | 100 mΩ max. (initial value)   |                                  |
| Dielectric strength                               | Between terminals of same polarity | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  | Not available for lighting units |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value)  |                                  |
| 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                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.)  |                                  |
|   | Electrical                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.) (250 VAC, 3 A, with an inductive load having power factor cos θ = 0.4) |                                  |
| 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>                |                                    | Conforming to IP66  |                                  |
| Electric shock protection class                   |                                    | Class II  |                                  |
| PTI (tracking characteristic)                     |                                    | 175   |                                  |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)  |                                  |
| Weight  |                                    | Approx. 60 g (for 1NC/1NO)  | Approx. 75 g (for 1NC/1NO)       |


\*1. With no icing or condensation.

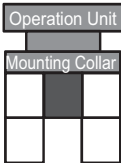
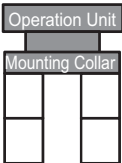
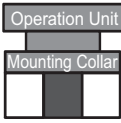
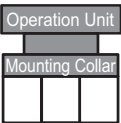
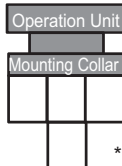
\*2. Degree of protection from the front of the panel.

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

| Item                                      | Type | Selector Switches                                  |                 |
|---|------|--|-----------------|
|   |      | Manual reset                                       | Automatic reset |
| Total travel force (torque) (maximum TTF) |      | 0.6 N·m  | 0.6 N·m         |
| Total travel (TT)                         |      | 2 positions: Approx. 90°, 3 positions: Approx. 45° |                 |
| Resetting force (torque) (RF)             |      | 0.5 N·m max.                                       | ---             |

### Examples of Linked Contact Blocks (Screw terminal block type)

 Contact Blocks  Lighting Units

|                 | Selector Switches   |   |  |   |
|-----------------|---|---|--|---|
|                 | 2 positions   |   | 3 positions  |   |
|                 | Lighted   | Non-lighted   | Lighted  | Non-lighted   |
| Linking example |  |  |  |  |
|                 |   |  |  |   |

\* If you use three Contact Blocks in stage 1, you can add one more Contact Block in the middle of stage 2.

**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.

# A30NS/A30NW

## Dimensions

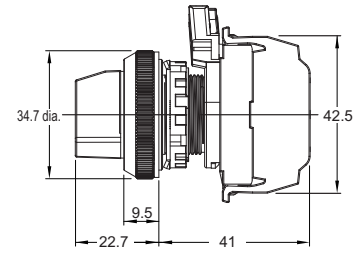
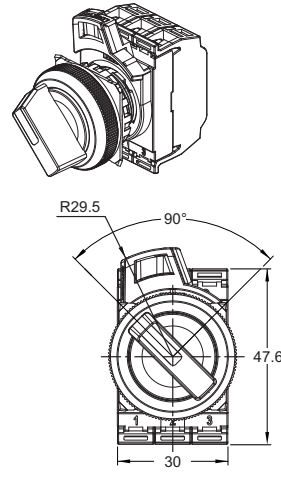
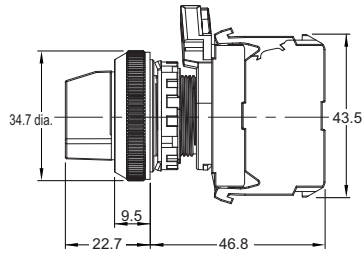
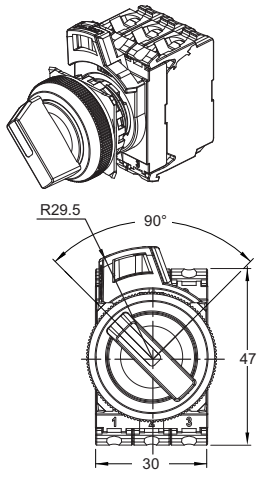
(Unit: mm)

### Lighted and Non-lighted Selection Switches

#### Two-position Switches with Brushed Metal Bezels

A30N□-2M□-□□A-G□-□□

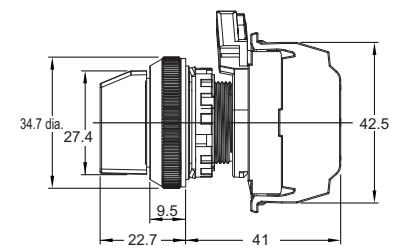
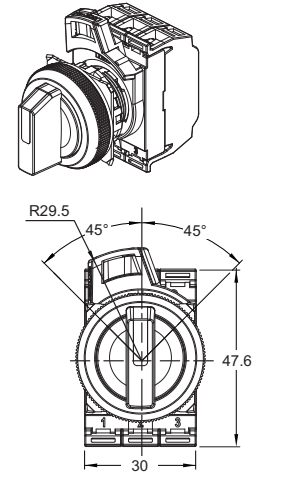
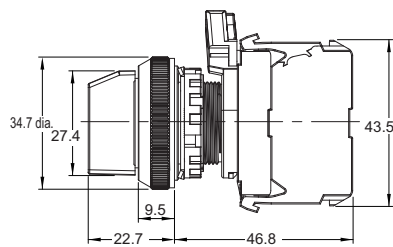
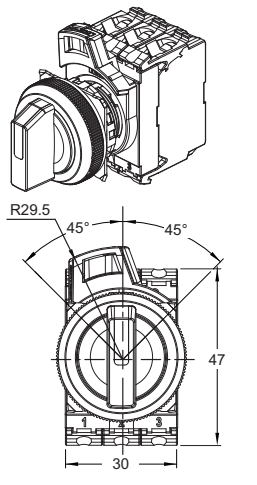
A30N□-2M□-□□A-P□-□□



#### Three-position Switches with Brushed Metal Bezels

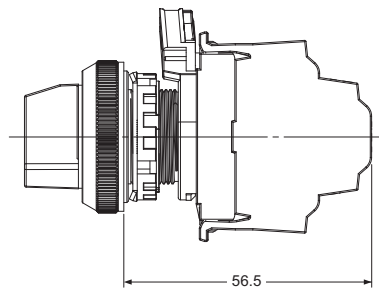
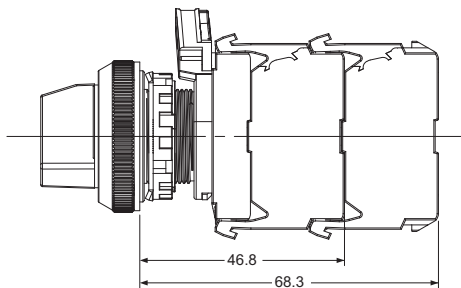
A30N□-3M□-□□A-G□-□□

A30N□-3M□-□□A-P□-□□



#### Depth with Linked Units (Screw terminal block type)

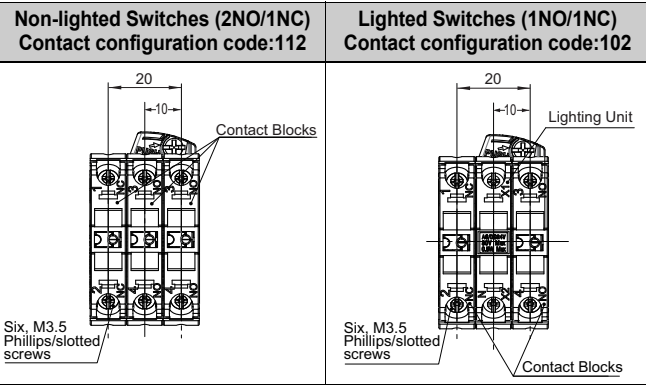
#### Depth when a double-contact unit is mounted (Push-In Plus terminal block type)



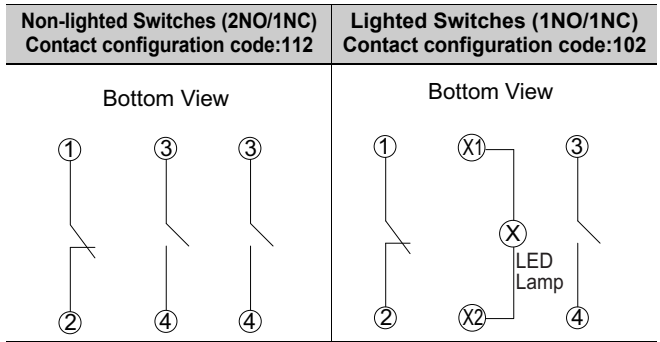
Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

**Terminal Arrangement**

**BOTTOM VIEW (Screw terminal block type)**



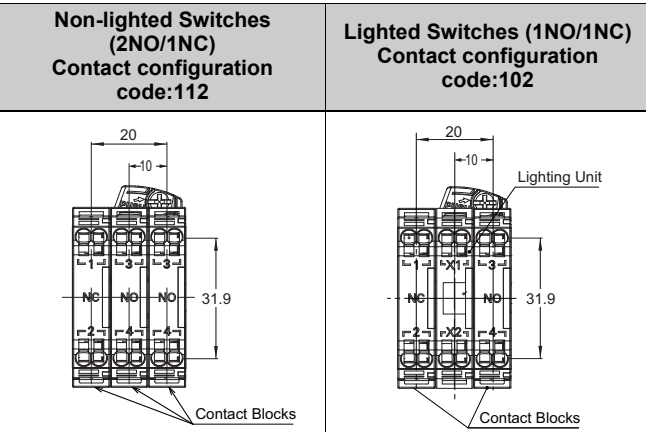
**Terminal Connection Diagrams**



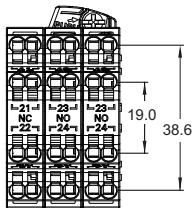
**Note:** The above shows a terminal connection diagram for a screw terminal block type.

**BOTTOM VIEW**

**(Push-In Plus terminal block type)**



**Double-contact unit Non-lighted (2NO/2NO/2NC)**



Pushbutton Switches  
**A22N**

Selector Switches  
**A22N**

Key-type Selector Switches  
**A22N**

Indicators  
**M22N**

Pushbutton Switches  
**A30N**

Selector Switches  
**A30N**

Key-type Selector Switches  
**A30N**

Subassemblies (Common)

Accessories and Tools

Safety Precautions

# Key-type Selector Switches

## A30NK

**30-mm dia. Key-type Selector Switches**  
Control panel miniaturization through a more compact design and modified wiring direction.  
Addition of Push-In Plus terminal blocks for easy wiring.  
Workability and safety improvements.



### Easy to Use

- You can connect up to three Contact Blocks in one stage for multistage expansion. (Screw terminal block type)
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)
- The terminals can be secured even when a contact block is mounted. (Screw terminal block type)
- Contact Blocks can be attached in any direction for easy assembly.

### Safety

- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

### Product Lineup

- The buttons and bezels come in a wide variety of colors and shapes.

**!** Refer to *Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions* on page 85.

## List of Models

Screw Terminal Blocks/Push-In Plus Terminal Blocks

Brushed metal bezels

A30NK

Two Positions



Three Positions



- Specifications: Refer to page 56.
- Dimensions: Refer to page 76.
- Accessories and tools: Refer to pages 80 to 81.

- Characteristics: Refer to page 75.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.

# Model Number Structure

**Model Number Legend** - - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.  
For information on combinations, refer to *Ordering Information* on page 72.

## Model Numbers for Sets

A 30 N <sup>(1)</sup> **K** - <sup>(2)</sup> **2M** <sup>(3)</sup> **M** - <sup>(4)</sup> **01** <sup>(5)</sup> **A** <sup>(6)</sup> **A** - <sup>(7)</sup> **G** <sup>(8)</sup> **100**

### (1) Type

| Code | Type                     |
|------|--------------------------|
| K    | Key-type Selector Switch |

### (4) Key Number

| Code | No.  |
|------|------|
| 01   | No.1 |

### (2) Number of Positions and Bezel Material

| Code | No. of positions | Bezel material |
|------|------------------|----------------|
| 2M   | 2                | Brushed metal  |
| 3M   | 3                | Brushed metal  |

### (5) Key Release Position

| Code | Release position | Two positions |         | Three positions |         |
|------|------------------|---------------|---------|-----------------|---------|
|      |                  | Diagram       | Diagram | Diagram         | Diagram |
| A    | All positions    |               |         |                 |         |
| B    | Left             |               |         |                 |         |
| C    | Right            |               |         |                 |         |
| D    | Center           | ---           |         |                 |         |
| G    | Left and right   | ---           |         |                 |         |

○: Release position    ●: Locked position  
\* The key can only be removed when in the free position for automatic reset models.

### (3) Reset Method

| Code | Reset method                      |   |         |
|------|-----------------------------------|---|---------|
|      | Manual                            | Automatic                               | Diagram |
| M    | Manual                            | Two-positions manual                    |         |
|      | Manual                            | Three-positions manual                  |         |
| L    | Automatic reset on left           | Two-positions automatic                 |         |
|      | Automatic reset on left           | Three-positions left automatic          |         |
| R    | Automatic reset on right          | Three-positions right automatic         |         |
| B    | Automatic reset on left and right | Three-positions left or right automatic |         |

### (6) Degree of Protection

| Code | Protection                 |
|------|----------------------------|
| A    | Conforming to IP66, NEMA13 |

### (7) Contacts and Terminals Specifications

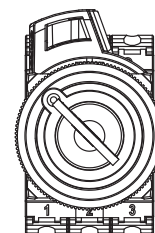
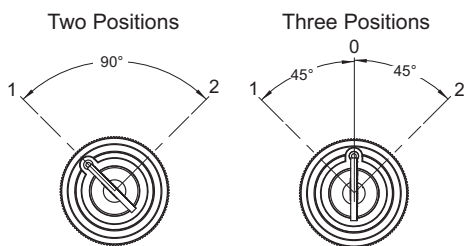
| Code | Specification                       |
|------|-------------------------------------|
| G    | General/Screw Terminal Block        |
| P    | General/Push-In Plus Terminal Block |

### (8) Contact Configuration

| Code | Contact Blocks |    | Unit position |     |     | Two positions | Three positions |
|------|----------------|----|---------------|-----|-----|---------------|-----------------|
|      | NO             | NC | 1             | 2   | 3   |               |                 |
| 100  | 1              | 0  | NO            | --- | --- | Yes           | ---             |
| 002  | 0              | 1  | ---           | --- | NC  | Yes           | ---             |
| 101  | 2              | 0  | NO            | --- | NO  | Yes           | Yes             |
| 102  | 1              | 1  | NO            | --- | NC  | Yes           | Yes             |
| 201  | 1              | 1  | NC            | --- | NO  | ---           | Yes             |
| 202  | 0              | 2  | NC            | --- | NC  | Yes           | Yes             |
| 110  | 2              | 0  | NO            | NO  | --- | ---           | Yes             |
| 111  | 3              | 0  | NO            | NO  | NO  | Yes           | Yes             |
| 112  | 2              | 1  | NO            | NO  | NC  | Yes           | Yes             |
| 210  | 1              | 1  | NC            | NO  | --- | ---           | Yes             |
| 211  | 2              | 1  | NC            | NO  | NO  | ---           | Yes             |
| 212  | 1              | 2  | NC            | NO  | NC  | ---           | Yes             |
| 011  | 2              | 0  | ---           | NO  | NO  | ---           | Yes             |
| 012  | 1              | 1  | ---           | NO  | NC  | ---           | Yes             |
| 120  | 1              | 1  | NO            | NC  | --- | ---           | Yes             |
| 121  | 2              | 1  | NO            | NC  | NO  | ---           | Yes             |
| 122  | 1              | 2  | NO            | NC  | NC  | Yes           | Yes             |
| 220  | 0              | 2  | NC            | NC  | --- | ---           | Yes             |
| 221  | 1              | 2  | NC            | NC  | NO  | ---           | Yes             |
| 222  | 0              | 3  | NC            | NC  | NC  | Yes           | Yes             |
| 021  | 1              | 1  | ---           | NC  | NO  | ---           | Yes             |
| 022  | 0              | 2  | ---           | NC  | NC  | ---           | Yes             |

**Note:** 1. NO (blue): Normally open, NC (orange): Normally closed.  
2. Refer to the following figure for Unit positions.  
3. Refer to *Contact Configuration Table* on page 34.

## Operation Angle



- Specifications: Refer to page 56.
- Dimensions: Refer to page 76.
- Accessories and tools: Refer to pages 80 to 81.

- Characteristics: Refer to page 75.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.


Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

## A30NK


## Ordering Information

**Model Numbers for Sets** - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.

## Two-position, Key-type Selector Switches

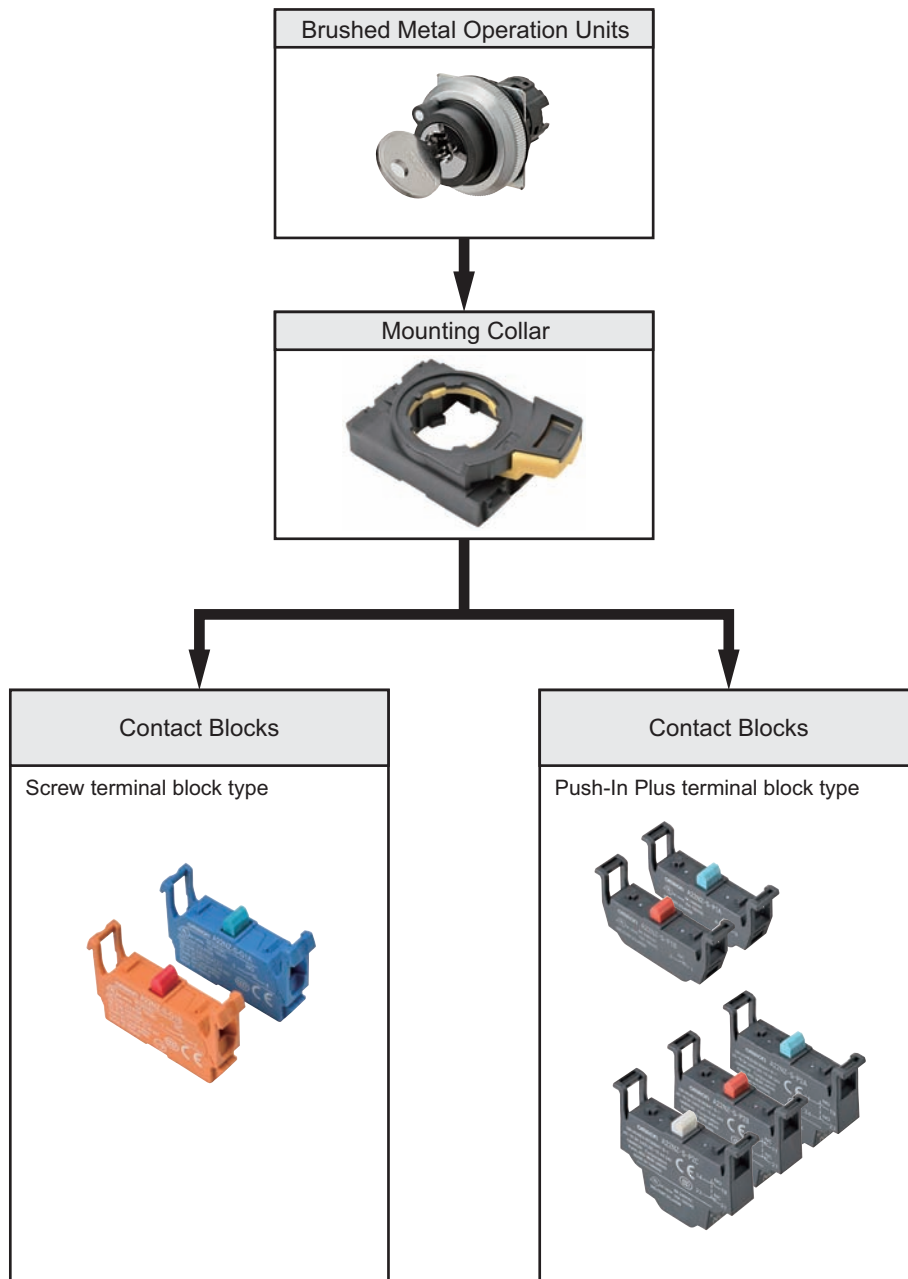
| Appearance  | Bezel material | No. of outputs | Model                         | (3)<br>Reset method                     | (5)<br>Key release positions            | (8)(8)(8)<br>Contact configuration |
|---|----------------|----------------|-------------------------------|---|---|------------------------------------|
| Brushed metal bezels<br> | 2M             | 1              | A30NK-2M(3)-01(5)A-G(8)(8)(8) | M: Manual<br>L: Automatic reset on left | A: All positions<br>B: Left<br>C: Right | 100                                |
|   |                |                | A30NK-2M(3)-01(5)A-P(8)(8)(8) |   |   | 002                                |
|   |                | 2              | A30NK-2M(3)-01(5)A-G(8)(8)(8) |   |   | 102                                |
|   |                |                | A30NK-2M(3)-01(5)A-P(8)(8)(8) |   |   | 101<br>202                         |
|   |                | 3              | A30NK-2M(3)-01(5)A-G(8)(8)(8) |   |   | 111                                |
|   |                |                | A30NK-2M(3)-01(5)A-P(8)(8)(8) |   |   | 222<br>122<br>112                  |

## Three-position, Key-type Selector Switches

| Appearance   | Bezel material | No. of outputs | Model                         | (3)<br>Reset method  | (5)<br>Key release positions  | (8)(8)(8)<br>Contact configuration                   |
|--|----------------|----------------|-------------------------------|--|---|--|
| Brushed metal bezels<br> | 3M             | 2              | A30NK-3M(3)-01(5)A-G(8)(8)(8) | M: Manual<br>L: Automatic reset on left<br>R: Automatic reset on right<br>B: Automatic reset on left and right | A: All positions<br>B: Left<br>C: Right<br>D: Center<br>G: Left and right | 110  |
|  |                |                | A30NK-3M(3)-01(5)A-P(8)(8)(8) |  |   | 011  |
|  |                |                | A30NK-3M(3)-01(5)A-G(8)(8)(8) |  |   | 101  |
|  |                |                | A30NK-3M(3)-01(5)A-P(8)(8)(8) |  |   | 220<br>022<br>202<br>120<br>102<br>210               |
|  |                | 3              | A30NK-3M(3)-01(5)A-G(8)(8)(8) |  |   | 201  |
|  |                |                | A30NK-3M(3)-01(5)A-P(8)(8)(8) |  |   | 012<br>021   |
|  |                |                |                               |  |   | 111<br>222<br>122<br>212<br>221<br>211<br>121<br>112 |

## Ordering Information

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



- Specifications: Refer to page 56.
- Dimensions: Refer to page 76.
- Accessories and tools: Refer to pages 80 to 81.

- Characteristics: Refer to page 75.
- Subassemblies (Common): Refer to page 78.
- Precautions for correct use: Refer to pages 85 to 96.

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# A30NK

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

## Operation Units

| Bezel material and shape |                                   | Brushed metal    | (5)<br>Key release positions  |
|--------------------------|-----------------------------------|------------------|---|
| No. of positions         | Reset method                      | Model            |   |
| 2                        | Manual                            | A30NZ-2MM-01(5)A | A: All positions<br>B: Left<br>C: Right                                   |
|                          | Automatic reset on left           | A30NZ-2ML-01(5)A |   |
| 3                        | Manual                            | A30NZ-3MM-01(5)A | A: All positions<br>B: Left<br>C: Right<br>D: Center<br>G: Left and right |
|                          | Automatic reset on left           | A30NZ-3ML-01(5)A |   |
|                          | Automatic reset on right          | A30NZ-3MR-01(5)A |   |
|                          | Automatic reset on left and right | A30NZ-3MB-01(5)A |   |

## Specifications

### Certified Safety Standard Ratings

**UL 508 (File No. E76675), CSA C22.2 No.14**

6 A 240 VAC, 10 A 120 VAC

**TÜV (EN60947-5-1)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

**CCC (GB/T14048.5)**

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

### Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

### Ratings

#### Contacts (Standard Load)

|                          |                        |       |       |        |       |       |
|--------------------------|------------------------|-------|-------|--------|-------|-------|
| Rated insulation voltage |                        | 600 V |       |        |       |       |
| Rated carry current      |                        | 10 A  |       |        |       |       |
| Rated 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 ±2°C

(2) Ambient humidity: 65% ±5% RH

(3) Operating frequency: 30 operations/minute

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

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

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

### Characteristics

| Item  | Type                               | Key-type Selector Switches   |  |
|---|------------------------------------|--|--|
|   |                                    |  |  |
| Allowable operating frequency                     | Mechanical                         | 30 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. (initial value)   |  |
|   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value)   |  |
| 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                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.)   |  |
|   | Electrical                         | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.)<br>(250 VAC, 3 A, with an inductive load having power factor cos θ = 0.4) |  |
| Ambient operating temperature <sup>*1</sup>       |                                    | -25 to 70°C  |  |
| Ambient operating humidity                        |                                    | 35% to 85% RH  |  |
| Ambient storage temperature <sup>*1</sup>         |                                    | -40 to 80°C  |  |
| Degree of protection <sup>*2</sup>                |                                    | Conforming to IP66   |  |
| Electric shock protection class                   |                                    | Class II   |  |
| PTI (tracking characteristic)                     |                                    | 175  |  |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)   |  |
| Weight  |                                    | Approx. 75 g (for 1NC/1NO)   |  |

\*1. With no icing or condensation.

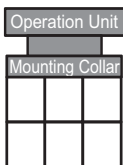
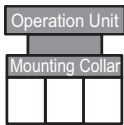
\*2. Degree of protection from the front of the panel.

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

| Item                                      | Type | Key-type Selector Switches                         |                 |
|---|------|--|-----------------|
|   |      | Manual reset                                       | Automatic reset |
| Total travel force (torque) (maximum TTF) |      | 0.6 N·m  | 0.6 N·m         |
| Total travel (TT)                         |      | 2 positions: Approx. 90°, 3 positions: Approx. 45° |                 |
| Resetting force (torque) (RF)             |      | 0.5 N·m max.                                       | ---             |

### Examples of Linked Contact Blocks (Screw terminal block type)

 Contact Blocks

|                 | Key-type Selector Switches  |   |
|-----------------|---|---|
|                 | 2 positions   | 3 positions   |
| 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.

# A30NK

## Dimensions

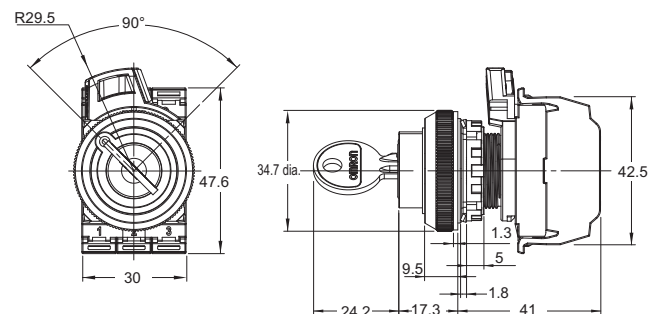
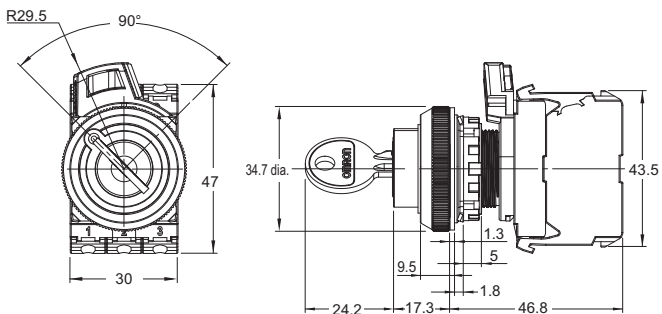
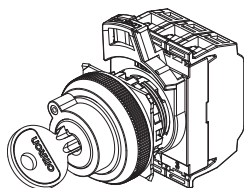
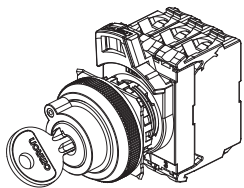
(Unit: mm)

### Key-type Selection Switches

#### Two-position Switches with Brushed Metal Bezels

A30NK-2M□-01□A-G□

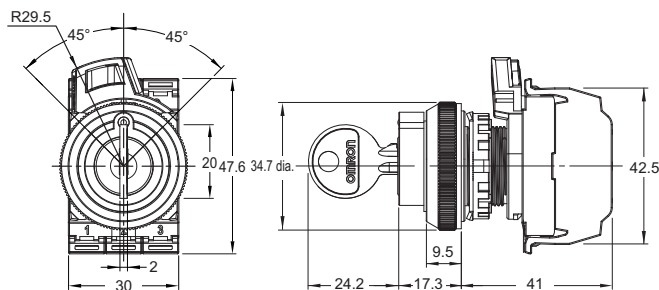
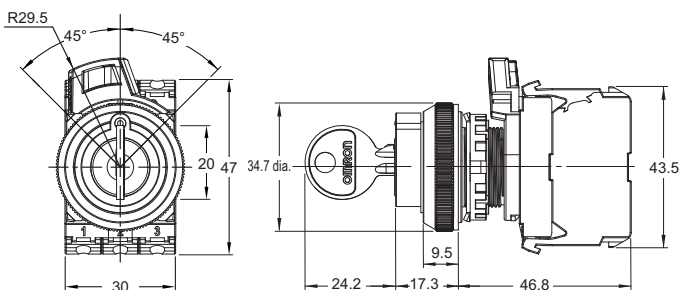
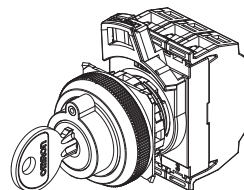
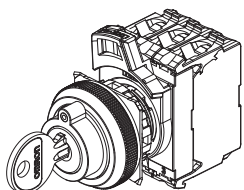
A30NK-2M□-01□A-P□



#### Three-position Switches with Brushed Metal Bezels

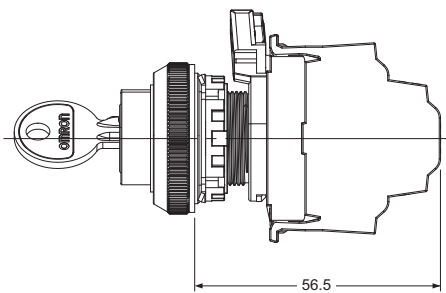
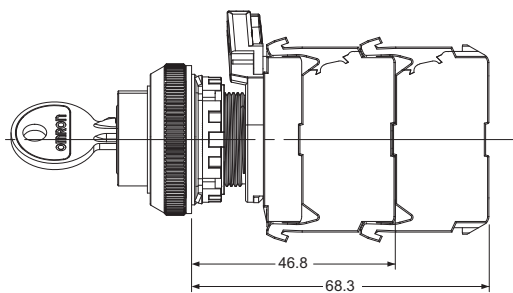
A30NK-3M□-01□A-G□

A30NK-3M□-01□A-P□



#### Depth with Linked Units (Screw terminal block type)

#### Depth when a double-contact unit is mounted (Push-In Plus terminal block type)



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

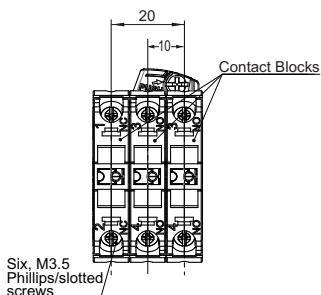
Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

### Terminal Arrangement BOTTOM VIEW (Screw terminal block type)

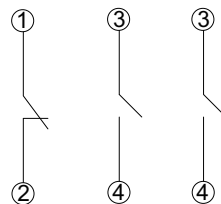
**2NO/1NC**  
Contact configuration code:112



### Terminal Connection Diagrams

**2NO/1NC**  
Contact configuration code:112

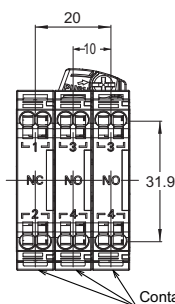
Bottom View



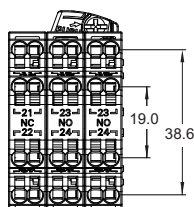
**Note:** The above shows a terminal connection diagram for a screw terminal block type.

### BOTTOM VIEW (Push-In Plus terminal block type)

**2NO/1NC**  
Contact configuration code:112



**Double-contact unit  
(2NO/2NO/2NC)**



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions


# A22N/M22N/A30N

## Subassemblies (Common)


## Ordering Information

**Subassemblies** - - - You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually. Use them in combination for models that are not available as assembled Units. These can also be used as inventory for maintenance parts.


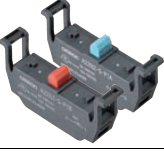
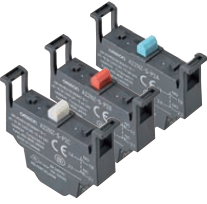
### LED Lamps

| Appearance  | Rated voltage | Model      |            |            |                 |                     |
|---|---------------|------------|------------|------------|-----------------|---------------------|
|   | Color         | 6 VAC/DC   | 12 VAC/DC  | 24 VAC/DC  | 100/110/120 VAC | 200/220/230/240 VAC |
|  | 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  | Terminals Specifications    | Contacts                | Model       |
|---|-----------------------------|-------------------------|-------------|
|  | Screw terminal block        | SPST-NO (blue)          | A22NZ-S-G1A |
|   |                             | SPST-NC (orange)        | A22NZ-S-G1B |
|  | Push-In Plus terminal block | SPST-NO (blue)          | A22NZ-S-P1A |
|   |                             | SPST-NC (red)           | A22NZ-S-P1B |
|  | Push-In Plus terminal block | DPST-NO (blue)          | A22NZ-S-P2A |
|   |                             | DPST-NC (red)           | A22NZ-S-P2B |
|   |                             | SPST-NO/SPST-NC (white) | A22NZ-S-P2C |

### Lighting Units

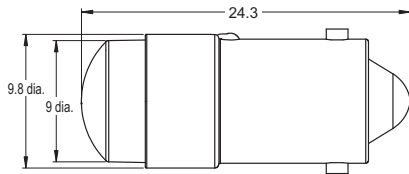
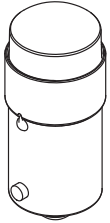
| Appearance  | Terminals Specifications    | Rated voltage       | Model      |
|---|-----------------------------|---------------------|------------|
|  | Screw terminal block        | 6 VAC/DC            | A22NZ-T-A  |
|   |                             | 12 VAC/DC           | A22NZ-T-B  |
|   |                             | 24 VAC/DC           | A22NZ-T-C  |
|   |                             | 100/110/120 VAC     | A22NZ-T-D  |
|   |                             | 200/220/230/240 VAC | A22NZ-T-E  |
|  | Push-In Plus terminal block | 6 VAC/DC            | A22NZ-T-AP |
|   |                             | 12 VAC/DC           | A22NZ-T-BP |
|   |                             | 24 VAC/DC           | A22NZ-T-CP |
|   |                             | 100/110/120 VAC     | A22NZ-T-DP |
|   |                             | 200/220/230/240 VAC | A22NZ-T-EP |

**Subassemblies (Common)**

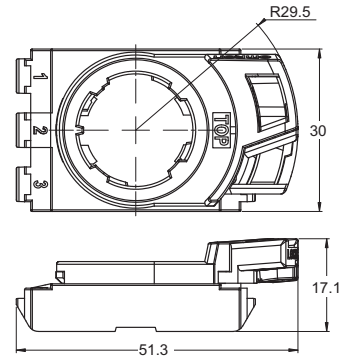
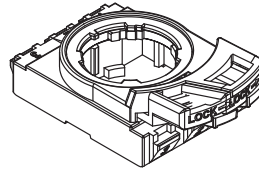
**Dimensions**

(Unit: mm)

**LED Lamps**  
A22NZ-L-□□

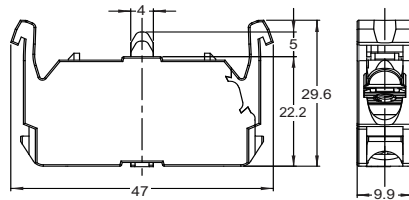
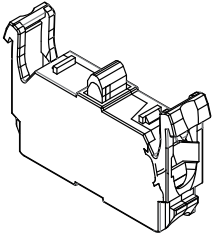


**Mounting Collar**  
A22NZ-H-01

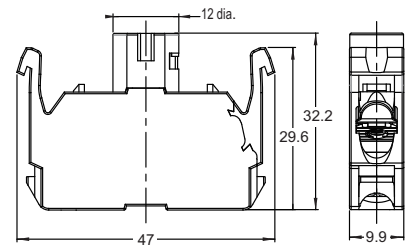
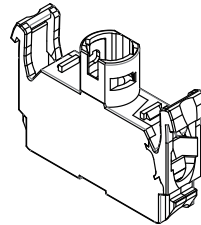


**Screw terminal block**

**Contact Blocks**  
A22NZ-S-G1□

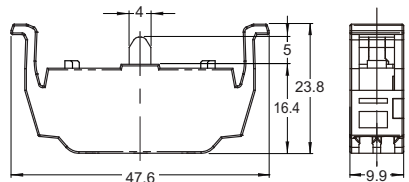
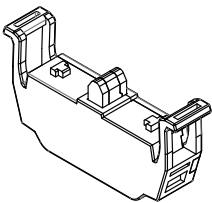


**Lighting Units**  
A22NZ-T-□

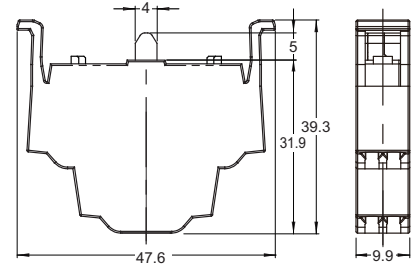
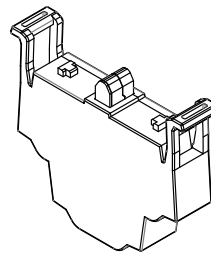


**Push-In Plus Terminal Blocks**

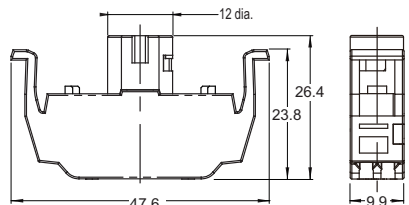
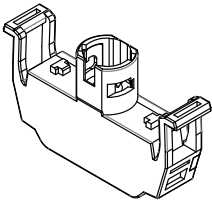
**Contact Blocks (Single Contact)**  
A22NZ-S-P1□



**Contact Blocks (Double Contact)**  
A22NZ-S-P2□



**Lighting Units**  
A22NZ-T-□P



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

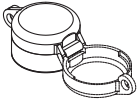


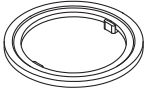



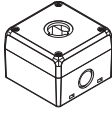



Safety Precautions

# A22N/M22N/A30N

## Accessories and Tools

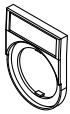
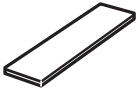

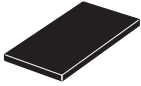
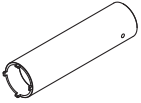
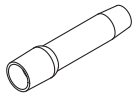

### Ordering Information

#### Accessories and Tools (Order Separately)

| Item                         | Appearance  | Classification     | Model   | Remarks  |                              |   |   |
|------------------------------|---|--------------------|---|--|------------------------------|---|---|
| Protective Cover             |    | ---                | <b>A22NZ-A-303</b>  | A protector designed to prevent incorrect operation. Cannot be used together with other accessories. (Rubber seal included.)<br>For 22.3 and 25.5-mm panel holes diameter.<br>Key-type selector switches cannot be used.                               |                              |   |   |
| Plastic Hole Plug            |    | Round              | <b>A22NZ-A-401</b>  | Can be plugged into precut panel holes for future expansion.<br>Applicable panel thickness: 0.8 to 3.0 mm<br>For 22.3-mm panel hole diameter.  |                              |   |   |
| Metal Hole Plug              |    | Round              | <b>A22NZ-A-402</b>  | Can be plugged into precut panel holes for future expansion.<br>Applicable panel thickness: 0.8 to 6.0 mm (Rubber seal included.)<br>For 22.3-mm panel hole diameter.  |                              |   |   |
| Lock Ring                    |    | Round              | <b>A22NZ-A-403</b>  | Used when a more secure lock is required to prevent rotation inside the Operation Unit. (Rubber seal included.)<br>For 22.3-mm panel hole diameter.<br>Can be used together with the A22NZ-A-50501 Lock Ring.  |                              |   |   |
| Lock Ring                    |   | ---                | <b>A22NZ-A-50501</b>  | Used when a more secure lock is required to prevent rotation of the Operation Unit.<br>Can be used together with the A22NZ-A-403 Lock Ring.<br>Can be used with the A22N Series and the A30N Series.   |                              |   |   |
| Reinforcement Plate          |  | ---                | <b>A22NZ-A-C01</b>  | Used to reinforce Contact Blocks and Lighting Units, Refer to page 92 for mounting instructions.   |                              |   |   |
| Key                          |  | ---                | <b>A22NZ-K-01</b>   | Used with a key-type selector switch.  |                              |   |   |
| Control Box                  |  | 1 hole             | <b>A22NZ-A-B101</b><br><b>A22NZ-A-B201</b>  | For 22.3-mm panel hole diameter, A30N□ cannot be used.<br>Two switches for screw terminal block type cannot be linked.<br>The A22NZ-A-B01Y and The A22NZ-A-B2□ model cannot be used for a double-contact unit of the Push-In Plus terminal block type. |                              |   |   |
|                              |   | 1 hole, yellow box | <b>A22NZ-A-B101Y</b><br><b>A22NZ-A-B01Y</b>   |  |                              |   |   |
|                              |   | 2 holes            | <b>A22NZ-A-B102</b><br><b>A22NZ-A-B202</b>  |  |                              |   |   |
|                              |   | 3 holes            | <b>A22NZ-A-B103</b><br><b>A22NZ-A-B203</b>  |  |                              |   |   |
|                              |   | Connector          |  |  | Suitable Cable Diameter (mm) | 7 to 9 dia. <b>A22Z-3500-1</b><br>9 to 11 dia. <b>A22Z-3500-2</b> | Plastic connector used to extend a cable from the switch box.<br>Refer to page 95 for details.  |
|                              |   | Sealing Caps       |  |  | For flat models              | <b>A22Z-3600F</b>   | Used to prevent dust or water from entering the Operation Unit.<br>Color: opaque<br>Material: silicon<br>For 22.3 and 25.5-mm panel holes diameter.<br>Knob-type and key-type selector switches cannot be used. |
| For projection models        | <b>A22Z-3600T</b>   |                    |   |  |                              |   |   |
| For full-guard models        | <b>A22Z-3600G</b>   |                    |   |  |                              |   |   |
| Resin Attachment for 30 dia. |  | Round              | <b>A22Z-A30</b>   | Use when mounting to a panel with a 30-dia. hole.<br>Refer to page 96 for details.<br>Purchase and mount a separate Lock Ring when using an indicator.   |                              |   |   |

## Accessories and Tools

## Ordering Information

| Item                                | Appearance  | Classification | Model                | Remarks  |  |
|-------------------------------------|---|----------------|----------------------|--|--|
| Small Legend Plate Frame            |    | Black          | <b>A22NZ-A-50103</b> | Legend Plate with no text on black background included. For 22.3-mm panel hole diameter. |  |
| Small Legend Plates (Standard Size) |    | Without text   | <b>A22Z-3443B</b>    | Black  |  |
|                                     |   |                | <b>A22Z-3443R</b>    | Red  |  |
|                                     |   |                | <b>A22Z-3443W</b>    | White  |  |
|                                     |   |                | <b>A22Z-3443C</b>    | Transparent  |  |
|                                     |   | ○              | <b>A22Z-3443R-2</b>  | White text on red background   |  |
|                                     |   | STOP           | <b>A22Z-3443R-4</b>  |  |  |
|                                     |   |                | <b>A22Z-3443B-1</b>  | White text on black background   |  |
|                                     |   | START          | <b>A22Z-3443B-3</b>  |  |  |
|                                     |   | ON             | <b>A22Z-3443B-5</b>  |  |  |
|                                     |   | OFF            | <b>A22Z-3443B-6</b>  |  |  |
|                                     |   | UP             | <b>A22Z-3443B-7</b>  |  |  |
|                                     |   | DOWN           | <b>A22Z-3443B-8</b>  |  |  |
|                                     |   | POWER ON       | <b>A22Z-3443B-9</b>  |  |  |
| OFF-ON                              | <b>A22Z-3443B-10</b>  |                |                      |  |  |
| Large Legend Plate Frame            |   | Black          | <b>A22NZ-A-51103</b> |  | Legend Plate with no text on black background included. For 22.3-mm panel hole diameter. |
| Large Legend Plates                 |  | Without text   | <b>A22Z-3453B</b>    |  | Black  |
|                                     |   |                | <b>A22Z-3453R</b>    | Red  |  |
|                                     |   |                | <b>A22Z-3453W</b>    | White  |  |
|                                     |   |                | <b>A22Z-3453C</b>    | Transparent  |  |
| Tightening Wrench                   |  | ---            | <b>A22NZ-A-301</b>   | Used to tighten Mounting Nuts from the back of the panel.                                |  |
| LED Lamp Extractor                  |  | ---            | <b>A22NZ-A-302</b>   | Made of rubber and used to easily remove and attach LED Lamps.                           |  |
| Cap Tightening Wrench               |  | ---            | <b>A22Z-3908</b>     | Used to replace the Caps on Flat, Projected, and Full-guard Pushbutton Switches.         |  |

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

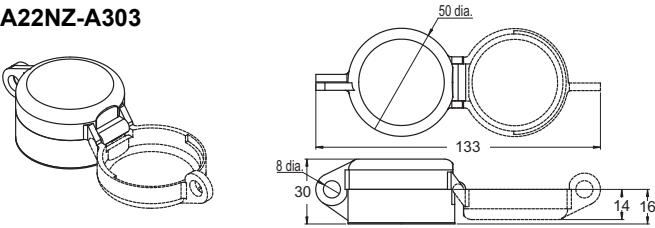
# A22N/M22N/A30N

## Accessories and Tools

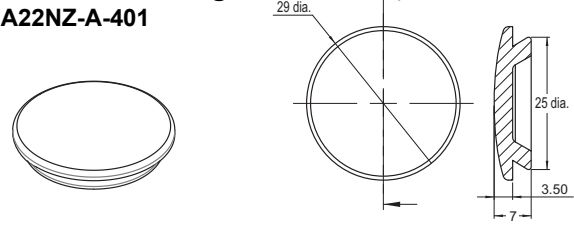
### Dimensions

(Unit: mm)

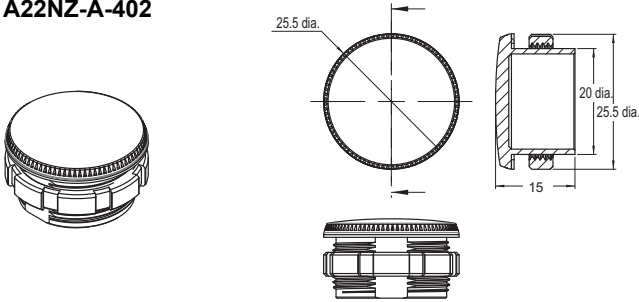
#### Protective Cover A22NZ-A303



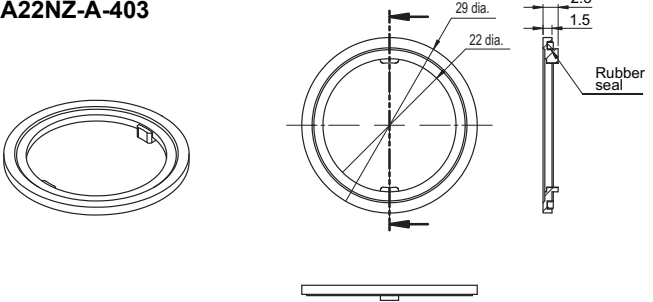
#### Plastic Hole Plug A22NZ-A-401



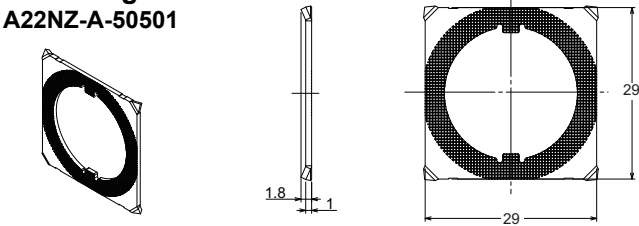
#### Metal Hole Plug A22NZ-A-402



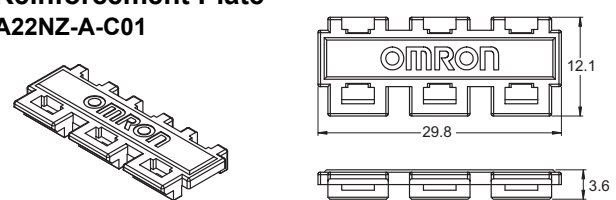
#### Lock Ring A22NZ-A-403



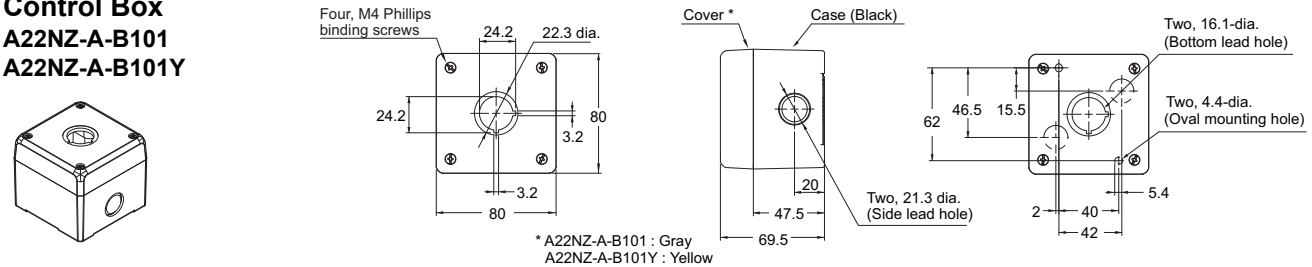
#### Lock Ring A22NZ-A-50501



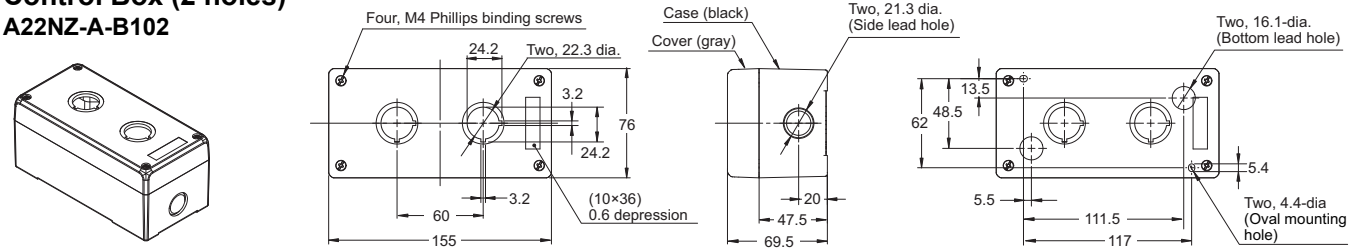
#### Reinforcement Plate A22NZ-A-C01



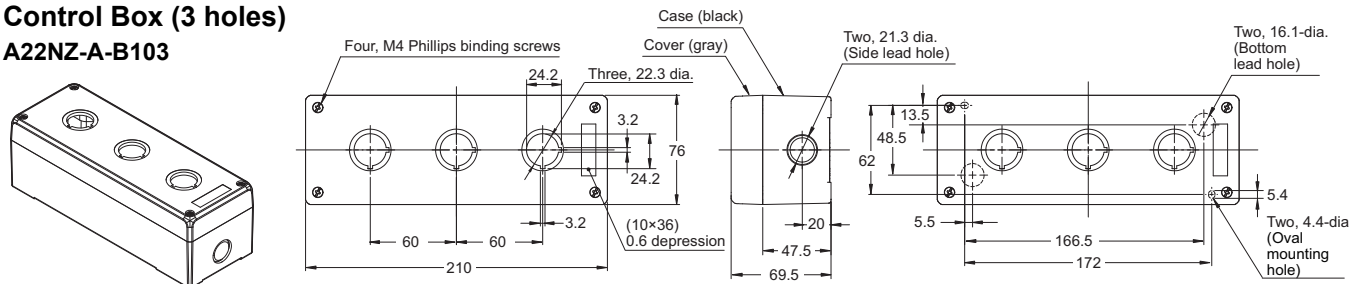
#### Control Box A22NZ-A-B101 A22NZ-A-B101Y



#### Control Box (2 holes) A22NZ-A-B102



#### Control Box (3 holes) A22NZ-A-B103



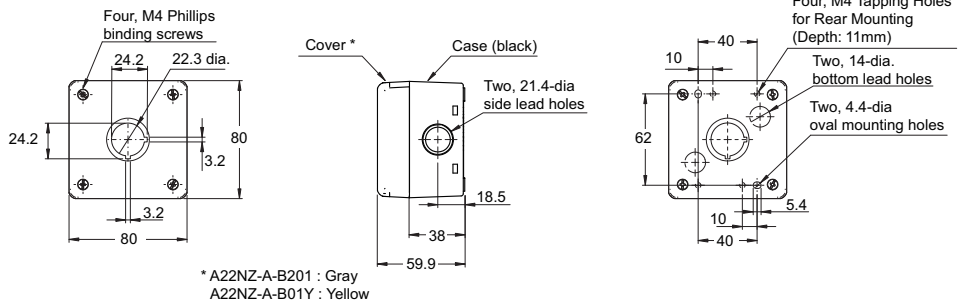
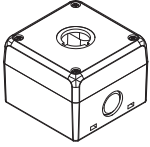
Pushbutton Switches  
A22N  
Selector Switches  
A22N  
Key-type Selector Switches  
A22N  
Indicators  
M22N  
Pushbutton Switches  
A30N  
Selector Switches  
A30N  
Key-type Selector Switches  
A30N  
Subassemblies (Common)  
Accessories and Tools  
Safety Precautions

**Accessories and Tools**

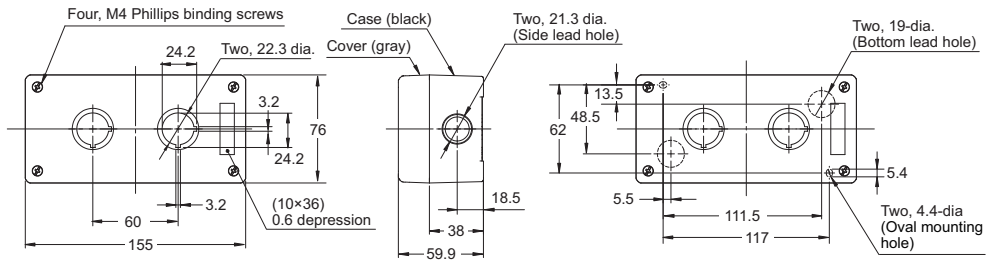
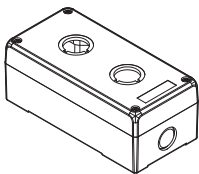
**Dimensions**

(Unit: mm)

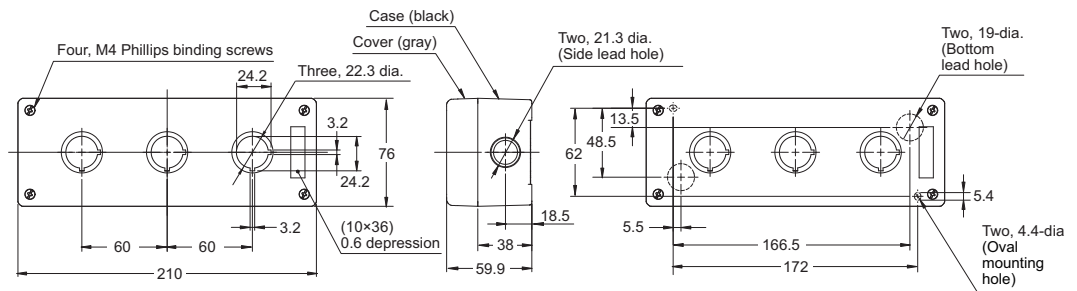
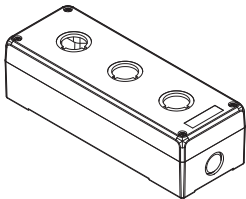
**Control Box  
A22NZ-A-B201  
A22NZ-A-B01Y**



**Control Box (2 holes)  
A22NZ-A-B202**



**Control Box (3 holes)  
A22NZ-A-B203**

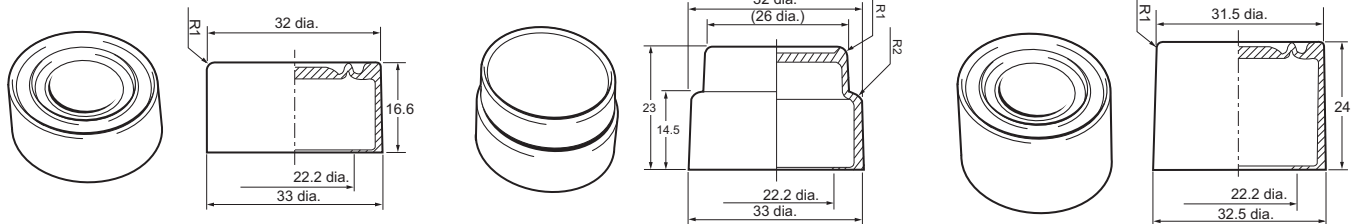


**Sealing cap**

For Flat Models A22Z-3600F

For projection models A22Z-3600T

For full-guard models A22Z-3600G



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

# A22N/M22N/A30N

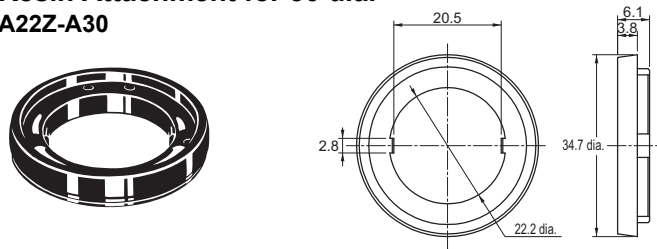
## Accessories and Tools

### Dimensions

(Unit: mm)

#### Resin Attachment for 30 dia.

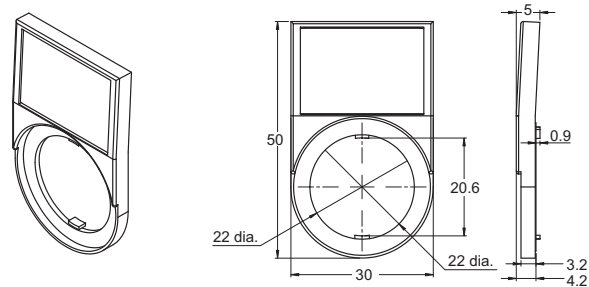
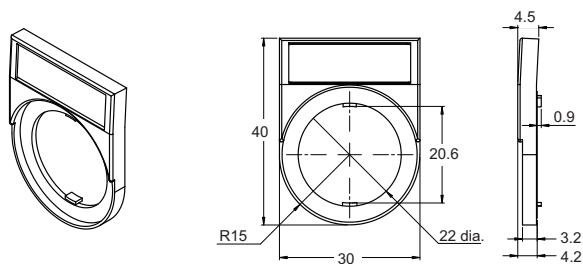
A22Z-A30



#### Legend Plate Frames

General A22NZ-A-50103

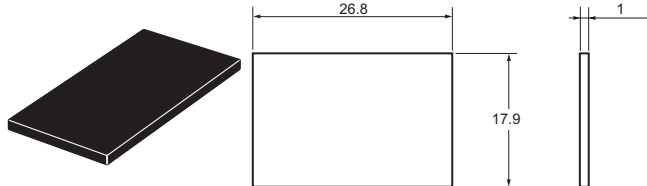
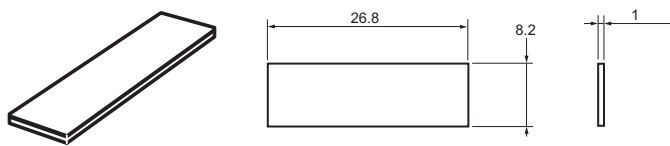
Large A22NZ-A-51103



#### Legend Plates

General A22Z-3443 □-□

Large A22Z-3453 □

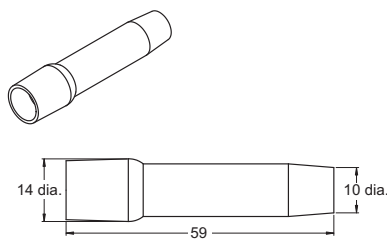
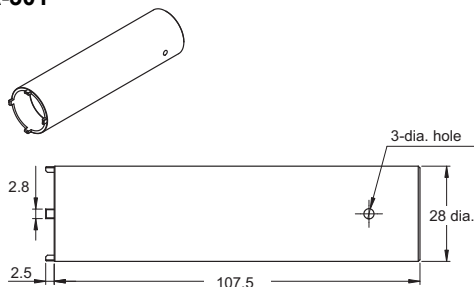


#### Tightening Wrench

A22NZ-A-301

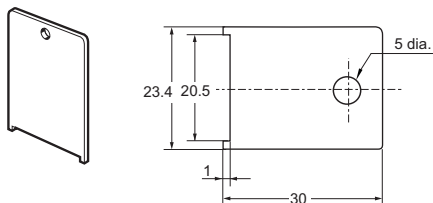
#### LED Lamp Extractor

A22NZ-A-302



#### Cap Tightening Wrench

A22Z-3908



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

## Safety Precautions

Refer to Safety Precautions for All Pushbutton Switches/Indicators.

### Signal Word Definitions

|                                    |  |
|------------------------------------|--|
| <b>Precautions for Safe Use</b>    | <b>Supplementary comments on what to do or avoid doing, to use the product safely.</b>   |
| <b>Precautions for Correct Use</b> | <b>Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction, or undesirable effects on product performance.</b> |

### Precautions for Safe Use

#### For both the Screw terminal block type and the Push-In Plus terminal block type

- Do not perform wiring with power supplied to the Switch/Indicator. Do not touch the terminals or other charged parts while power is being supplied. Doing so may result in electric shock.
- Do not disassemble or modify the Switch/Indicator under any circumstances.
- Doing so may prevent the Switch/Indicator from functioning to its full capability. Do not drop the Switch/Indicator. Do not apply pressure that may deform or alter the Switch/Indicator.
- The durability of the Switch varies considerably depending on the switching conditions. Always test the Switch/Indicator under actual working conditions before application and use the Switch/Indicator only for the number of switching operations allowed.
- Do not allow the load voltage and current to exceed the rated value. This may damage or burn out the Switch/Indicator.
- Do not use the Switch/Indicator in locations where explosive or flammable gases or liquid may be present or scattered. The electric arc or the heat caused by switching contacts may cause a fire or explosion.
- Do not use the Switch/Indicator in locations where toxic gases, such as H<sub>2</sub>S, SO<sub>2</sub>, NH<sub>3</sub>, HNO<sub>3</sub>, and Cl<sub>2</sub>, may be present, or in locations subject to high temperature or humidity. Doing so may damage the Switch/Indicator due to contact failure or corrosion.
- Do not use the Switch/Indicator submerged in oil or water, or in locations continuously subject to splashes of oil or water. Doing so may result in oil or water entering and damaging the Switch/Indicator.
- Do not use or keep the Switch/Indicator under the following conditions:
  - Subject to severe temperature changes.
  - Subject to high humidity or condensation.
  - Subject to severe vibration or shock.
  - Where direct rays of the sun strike.
  - Where sea breeze may be present.
- Make sure that a rubber washer is present between the Operation Unit and the panel. Otherwise, the specifications of the protective structure may not be satisfied.
- Do not apply excessive force to the Switch or wiring. A damaged or deformed contact block may cause contact failure.
- Use an appropriate wire and ferrule.
- Exercise caution to avoid wiring errors when connecting the terminals.

- To prevent wiring materials from smoking or igniting, confirm wire ratings and use the wiring materials given in the following table.

| Model  | Wire Type                    | Wire   | Recommended Wires                          | Stripped length          |
|--|------------------------------|--------|--|--------------------------|
| A22N, M22N (Screw terminal block)            | Solid wire/<br>stranded wire | Copper | 1.25 to 2.5 mm <sup>2</sup> / AWG 16 to 14 | 8 mm                     |
| A22N-P, M22N-P (Push-In Plus terminal block) |                              |        | 0.25 to 1.5 mm <sup>2</sup> / AWG 24 to 16 | Ferrules not used : 8 mm |

Use wiring crimp terminals and ferrule terminals of the specified size.

- For Push-In Plus terminal blocks, use only one wire per terminal. For screw terminal blocks, use no more than two wires of the same size and type with no more than two crimp terminals per terminal.
- After storing the product for a long time exceeding 1 year, perform, at a minimum, inspections of the operating characteristics, contact resistance, insulation resistance, and dielectric strength as well as evaluate the product under the working conditions.
- This Switch/Indicator is intended for indoor use only. Using the Switch/Indicator outdoors may result in failure.

#### Push-In Plus Terminal Blocks

- Do not wire anything to the release holes.
- Do not tilt or twist a flat-blade screwdriver while it is inserted into a release hole on the terminal block. The terminal block may be damaged.
- Insert a flat-blade screwdriver into the release holes at an angle. The terminal block may be damaged if you insert the screwdriver straight in.
- Do not allow the flat-blade screwdriver to fall out while it is inserted into a release hole.
- Do not bend a wire past its natural bending radius or pull on it with excessive force. Doing so may cause the wire disconnection.
- Do not insert more than one wire into each terminal insertion hole.
- Do not mount A22N-P Push-In Plus terminal contact blocks on A22N screw terminal blocks. Doing so may result in unsatisfactory performance.

# A22N/M22N/A30N

## Precautions for Correct Use

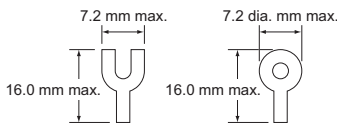
### Mounting

- 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.)

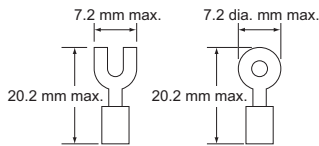
### Wiring (Screw terminal block)

- 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/Indicator.

#### Bare Crimp Terminals



#### Crimp Terminals with Insulating Sheaths

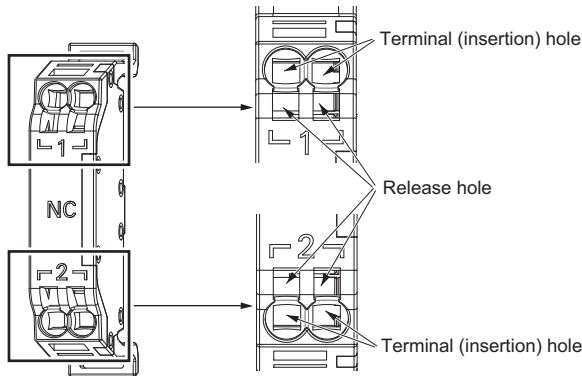


### Wiring (Push-in Plus terminal block)

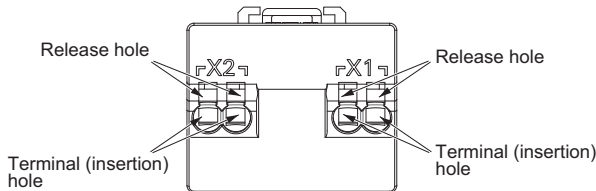
#### 1. Connecting Wires to the Push-In Plus Terminal Block

#### Part Names of the Terminal Block

##### <A22N>



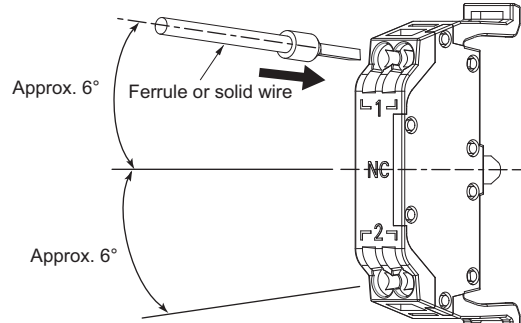
##### <M22N>



### Connecting Wires with Ferrules and Solid Wires

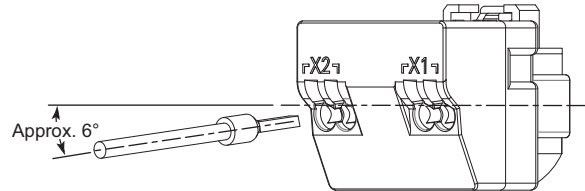
- Insert the solid wire or ferrule straight into the terminal block until the end strikes the terminal block. The angle should be approximately 6°.
- If a wire is difficult to connect because it is too thin, use a flat-blade screwdriver in the same way as when connecting stranded wires.

##### <A22N>



The wiring for the Lighting Unit and Contact Block (2 contacts) are the same as for the Contact Block (1 contact) shown in the above illustration.

##### <M22N>



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-Type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-Type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

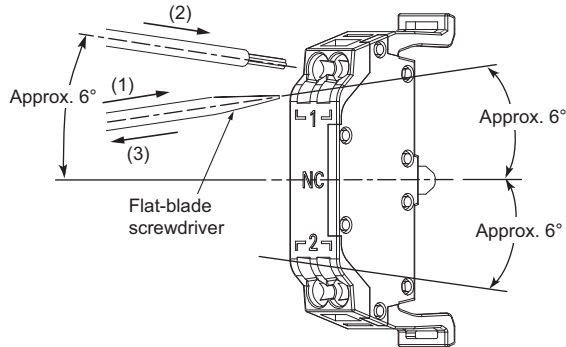
Safety  
Precautions

### Connecting Stranded Wires

Use the following procedure to connect the wires to the terminal block.

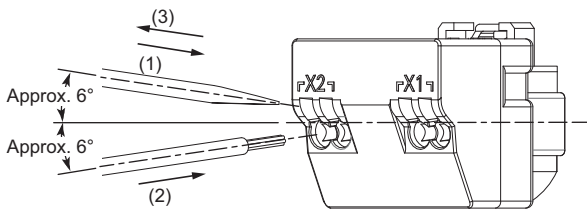
1. Hold a flat-blade screwdriver at an angle and insert it into the release hole.  
The angle should be approximately 6°. If the flat-blade screwdriver is inserted correctly, you will feel the spring in the release hole.
2. With the flat-blade screwdriver still inserted into the release hole, insert the wire into the terminal hole until the end strikes the terminal block.
3. Remove the flat-blade screwdriver from the release hole.

#### <A22N>



The wiring and screwdriver angles for the Lighting Unit and Contact Block (2 contacts) are the same as for the Contact Block (1 contact) shown in the above illustration.

#### <M22N>



### Checking Connections

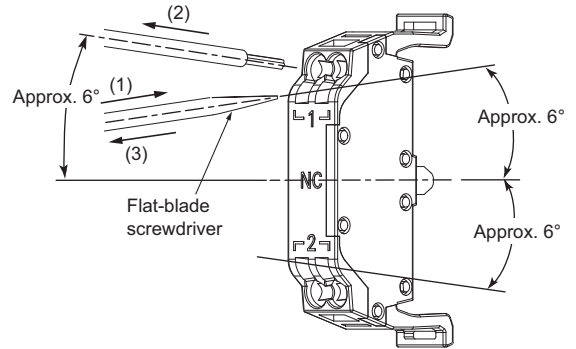
- After the insertion, pull gently on the wire to make sure that it will not come off and it is securely fastened to the terminal block.
- If you use a ferrule with a conductor length of 10 mm, part of the conductor may be visible after the ferrule is inserted into the terminal block, but the product insulation distance will still be satisfied.

### 2. Removing Wires from the Push-In Plus Terminal Block

Use the following procedure to remove wires from the terminal block. The same method is used to remove stranded wires, solid wires, and ferrules.

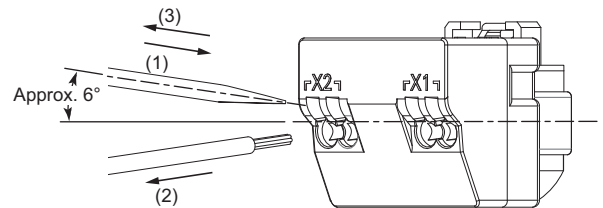
1. Hold a flat-blade screwdriver at an angle and insert it into the release hole. The angle should be approximately 6°.
2. With the flat-blade screwdriver still inserted into the release hole, remove the wire from the terminal insertion hole.
3. Remove the flat-blade screwdriver from the release hole.

#### <A22N>



The wiring and screwdriver angles for the Lighting Unit and Contact Block (2 contacts) are the same as for the Contact Block (1 contact) shown in the above illustration.

#### <M22N>



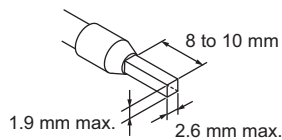
# A22N/M22N/A30N

## 3. Recommended Ferrules and Crimp Tools

### Recommended ferrules

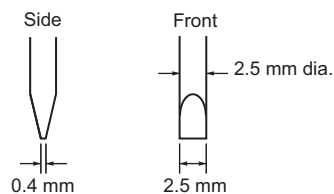
| Applicable wire         |       | Ferrule Conductor Length (mm) | Stripped length (mm) (Ferrules used) | Recommended ferrules                     |                    |              |
|-------------------------|-------|-------------------------------|--------------------------------------|--|--------------------|--------------|
| (mm <sup>2</sup> )      | (AWG) |                               |                                      | Phoenix Contact product                  | Weidmuller product | Wago product |
| 0.25                    | 24    | 8                             | 10                                   | AI 0,25-8                                | H0.25/12           | 216-301      |
|                         |       | 10                            | 12                                   | AI 0,25-10                               | ---                | ---          |
| 0.34                    | 22    | 8                             | 10                                   | AI 0,34-8                                | H0.34/12           | 216-302      |
|                         |       | 10                            | 12                                   | AI 0,34-10                               | ---                | ---          |
| 0.5                     | 20    | 8                             | 10                                   | AI 0,5-8                                 | H0.5/14            | 216-201      |
|                         |       | 10                            | 12                                   | AI 0,5-10                                | H0.5/16            | 216-241      |
| 0.75                    | 18    | 8                             | 10                                   | AI 0,75-8                                | H0.75/14           | 216-202      |
|                         |       | 10                            | 12                                   | AI 0,75-10                               | H0.75/16           | 216-242      |
| 1/1.25                  | 18/17 | 8                             | 10                                   | AI 1-8                                   | H1.0/14            | 216-203      |
|                         |       | 10                            | 12                                   | AI 1-10                                  | H1.0/16            | 216-243      |
| 1.25/1.5                | 17/16 | 8                             | 10                                   | AI 1,5-8                                 | H1.5/14            | 216-204      |
|                         |       | 10                            | 12                                   | AI 1,5-10                                | H1.5/16            | 216-244      |
| Recommended Crimp Tools |       |                               |                                      | CRIMPFOX6<br>CRIMPFOX6T-F<br>CRIMPFOX10S | PZ6 roto           | Variocrimp4  |

- Note: 1.** Make sure that the outer diameter of the wire coating is smaller than the inner diameter of the insulation sleeve of the recommended ferrule.
- 2.** Make sure that the ferrule processing dimensions conform to the following figures.



### Recommended Flat-Blade Screwdrivers

Use a flat-blade screwdriver to connect and remove wires. Use one of the following flat-blade screwdrivers. The following table shows manufacturers and models as of 2015/Dec.



| Model                              | Manufacturer    |
|------------------------------------|-----------------|
| ESD 0,40 x 2,5                     | Wera            |
| SZS 0,4 x 2,5<br>SZF 0-0,4 x 2,5 * | Phoenix Contact |
| 0.4 x 2.5 x 75 302                 | Wiha            |
| AEF.2,5 x 75                       | Facom           |
| 210-719                            | Wago            |
| SDI 0.4 x 2.5 x 75                 | Weidmuller      |

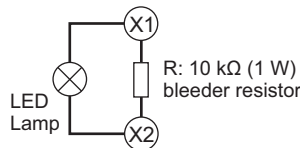
- \* OMRON's exclusive purchase model XW4Z-00B is available to order as SZF 0-0,4 x 2,5 (manufactured by Phoenix Contact).
- After wiring the Switch/Indicator, provide a sufficient insulation distance.

The following information applies to both screw terminal blocks and Push-In Plus terminal blocks.

### LED Lamps

- A current-limiting resistor is built in the LED lamp, so the installation of an external resistance is not required. A diode bridge is equipped in 6, 12, and 24 V specifications. As such, there is no specific polarity. Use only AC power for 100 and 200 V specifications.
- Lighting malfunction of the LED lamp  
A micro-current of approximately 0.1 mA or less is sufficient to turn on the LED lamps. Take a countermeasure like adding a resistor to prevent mis-lighting in parallel to the LED lamp. The micro-current varies with the machine (leak current or stray capacity between cables, etc.). Select resistance value and allowable power consumption that meet the actual current.

**(Example of lighting malfunction prevention circuit)**  
When using a 24-VAC/VDC lighted unit



### Key-Type Selector Switches

- Make sure to insert the key to the bottom of the cylinder before turning it.

### Button Operation

- Do not rotate or pull on the button on a Mushroom Switch. The button may come off, preventing operation.

Pushbutton Switches A22N  
 Selector Switches A22N  
 Key-Type Selector Switches A22N  
 Indicators M22N  
 Pushbutton Switches A30N  
 Selector Switches A30N  
 Key-Type Selector Switches A30N  
 Subassemblies (Common)  
 Accessories and Tools  
 Safety Precautions

## Application

### Mounting to the Panel

#### Panel Hole Dimensions

##### <A22N>

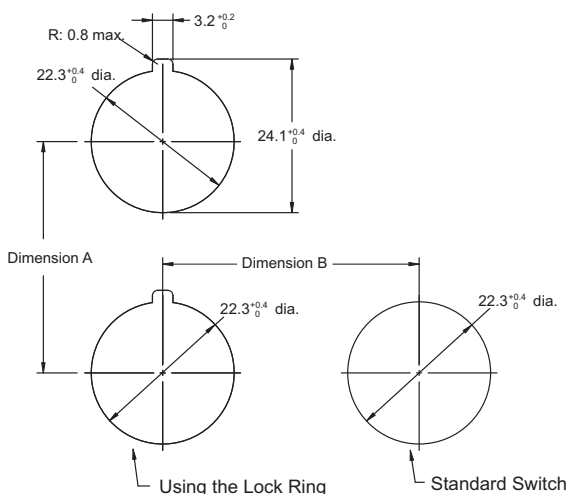
- Panel hole dimensions are given below.
- The recommended panel thicknesses are given below.

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

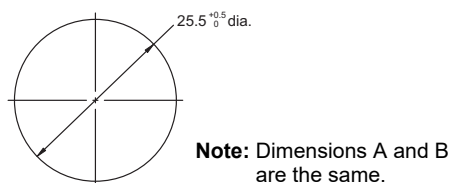
\* Panel thickness without accessories (Lock Ring, etc.)

- 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 (stranded wire / 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 the Mounting Collar lock levers all face the same direction at the minimum mounting pitch, be sure to note the order the mounting collars are attached to the Operation Unit. 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.

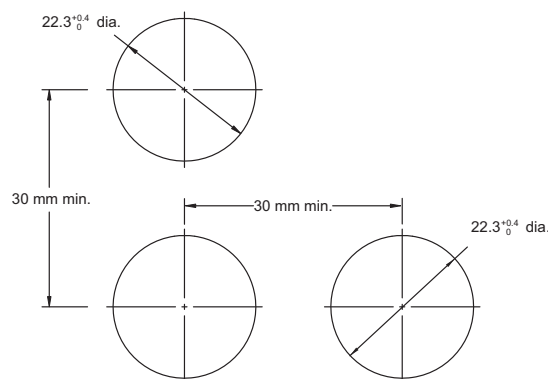
#### Dimension B

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

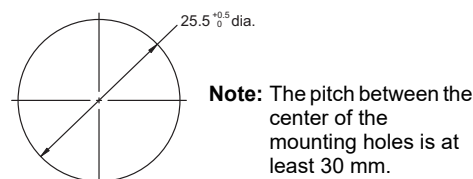
##### <M22N>

- Panel hole dimensions are given below.
- Acceptable panel thickness is between 0.8 and 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.

#### Panel Hole Dimensions for 22.3 Diameter



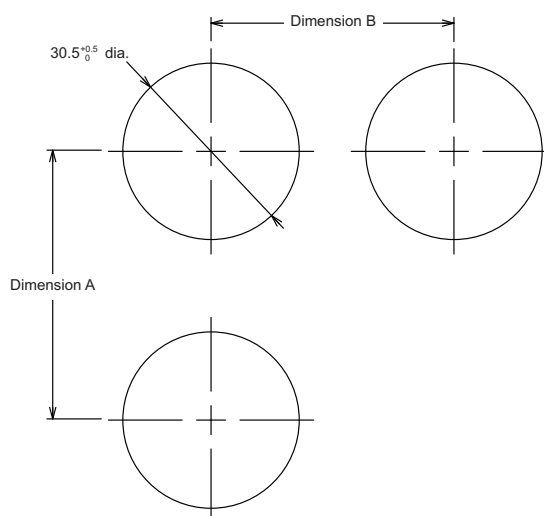
#### Panel Hole Dimensions for 25.5 Diameter



##### <A30N>

- Panel hole dimensions are given below.
- Acceptable panel thickness is between 0.8 and 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



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies (Common)

Accessories and Tools

Safety Precautions

# A22N/M22N/A30N

## Dimension A

| Wire type                                | Number of linked Contact Blocks | Number of wires per terminal | Minimum allowable pitch Dimension A (mm) or larger |
|--|---------------------------------|------------------------------|--|
| Leads (stranded wire / 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 the Mounting Collar lock levers all face the same direction at the minimum mounting pitch, be sure to note the order the mounting collars are attached to the Operation Unit. If you attach two wires or link Units, determine the mounting pitch based on the dimensions diagrams and ease of operation and wiring.

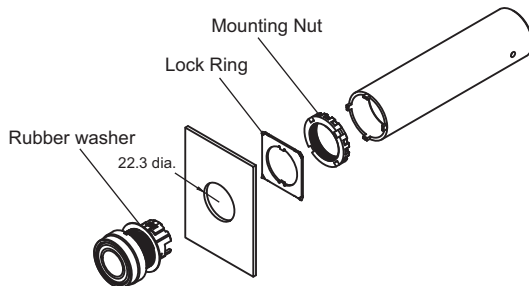
## Dimension B

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

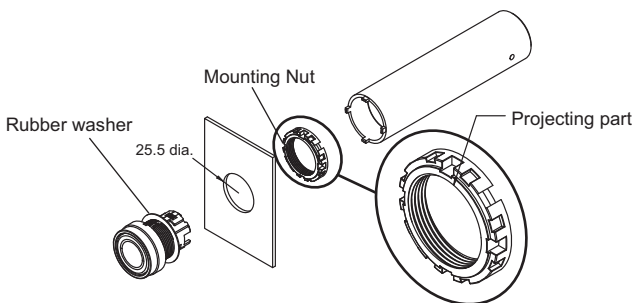
## Mounting the Operation Unit

### <A22N>

- 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.



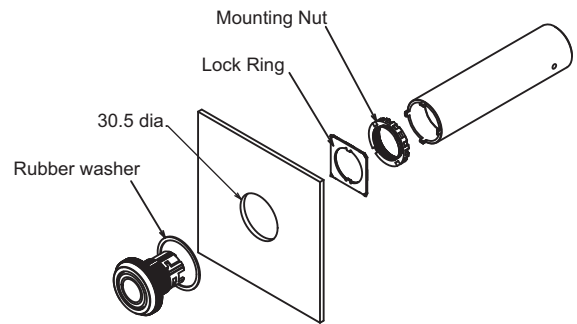
- Panel Hole of 25.5-mm Diameter  
Do not use the Lock Ring, and tighten the Mounting Nut while confirming that the projecting part (see following figure) on the Mounting Nut is aligned with mounting hole. Before tightening, check that the rubber washer is present between the Operation Unit and the panel.



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

### <A30N>

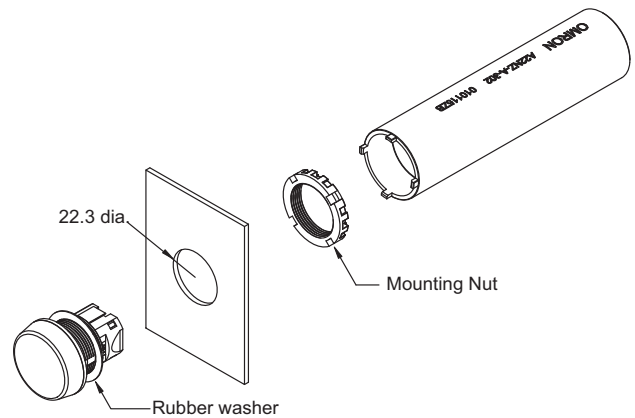
- Insert the Operation Unit from the front of the panel, insert the Lock Ring and Mounting Nut from the back of the panel, and tighten the Mounting Nut. Before tightening, check that the rubber washer is present between the Operation Unit and the panel.



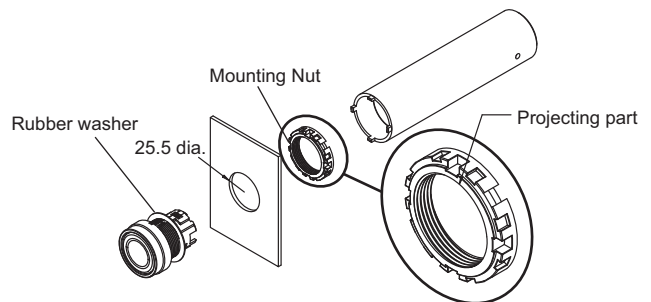
## Mounting the Indicator Unit

### <M22N>

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



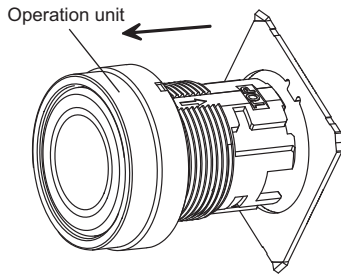
- Panel Hole of 25.5-mm Diameter  
Tighten the Mounting Nut while confirming that the projecting part (see following figure) on the Mounting Nut is aligned with mounting hole. Before tightening, verify that the rubber washer is present between the Operation Unit and the panel.



## Mounting the Lock Ring

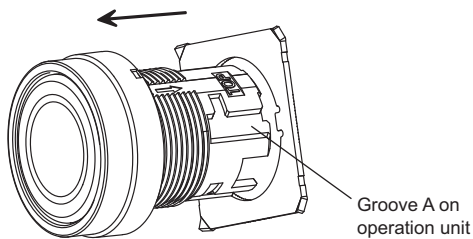
<A22N/A30N>

- Align the grooves on the Operation Unit with the protruding parts of the Lock Ring and mount.

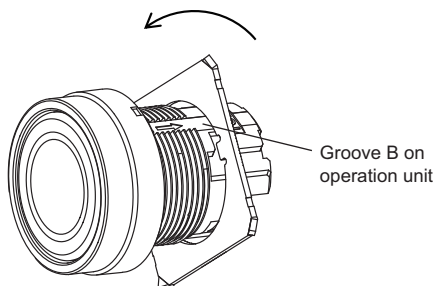


- When experiencing difficulties when mounting a Lock Ring, use the following procedure.

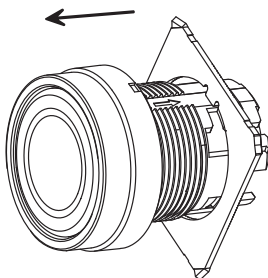
1. Insert the Lock Ring into groove A on the Operation Unit.



2. When the Lock Ring is in the position shown in the figure below, rotate it to insert the protruding part of the Lock Ring into groove B on the Operation Unit.



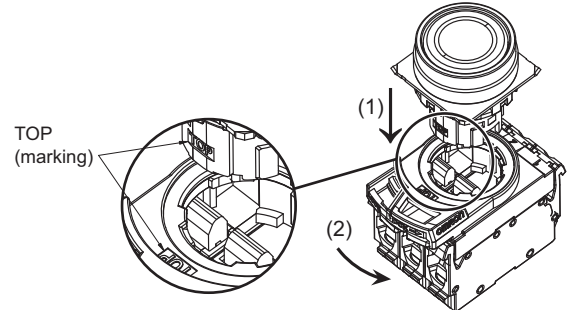
3. When the Lock Ring is in the position shown in the figure below, move it in the direction indicated by the arrow.



## Mounting the Contact Block to the Operation Unit

<A22N/A30N>

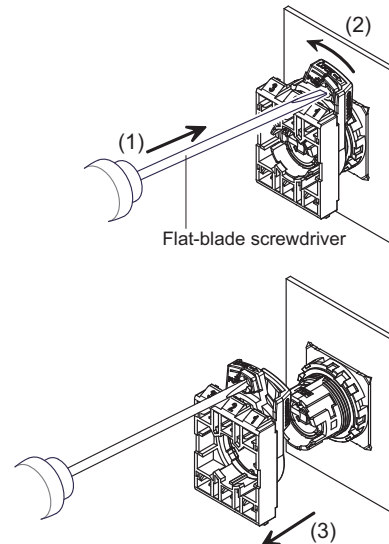
- Insert the Operation Unit into the Mounting Collar, aligning the TOP mark inscribed on the Operation Unit with the lever on the Mounting Collar, and then turn the lever in the direction indicated by the arrow in the following figure all of the way until it clicks into place.



## Removing the Mounting Collar

<A22N/A30N>

- 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.



# A22N/M22N/A30N

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

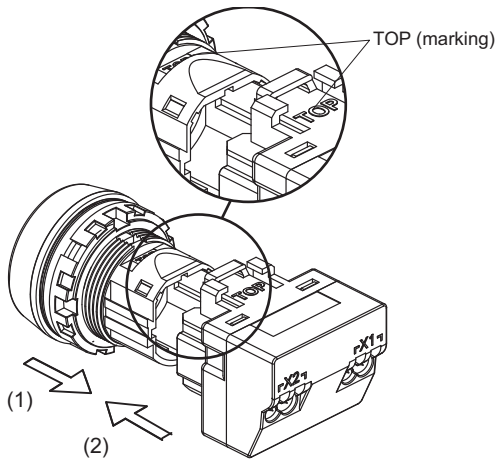
Accessories  
and Tools

Safety  
Precautions

## Attaching the Switch Unit to the Indicator Unit

### <M22N>

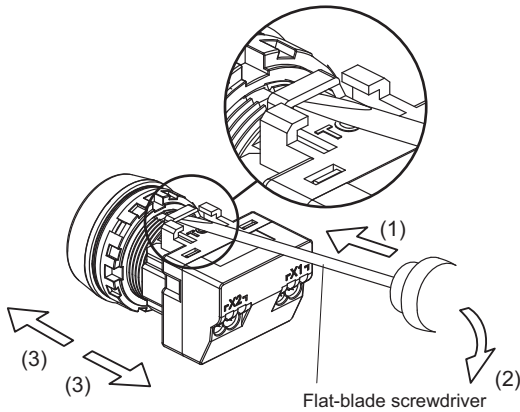
- Align the "TOP" marks on the Indicator Unit and Switch Unit and insert the Indicator Unit into the Switch Unit. Insert it all the way until it clicks into place.



## Removing the Switch Unit

### <M22N>

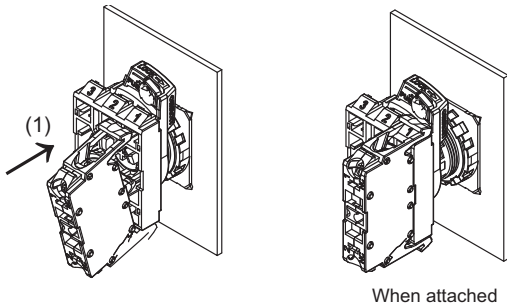
- Insert a screwdriver into the tab on the Switch Unit. Move the screwdriver in direction (2) to remove the Switch Unit.



## Contact Block and Lighting Unit

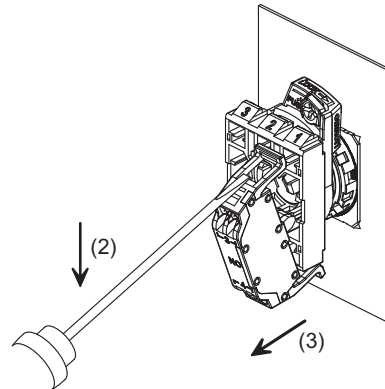
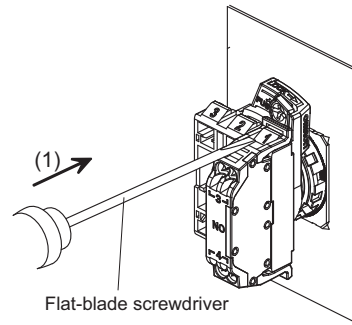
### Attaching the Contact Block and Lighting Unit

- 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). Attach the Lighting Unit at Unit position 2 on the Mounting Collar.



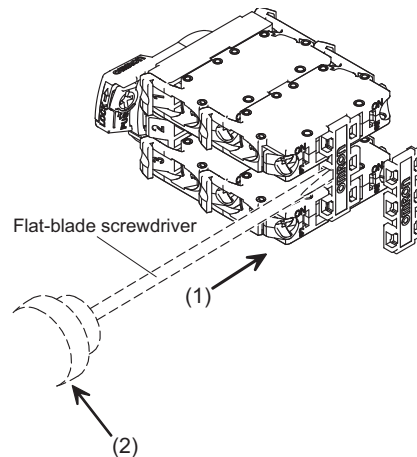
## Removing the Contact Block and Lighting Unit

- Insert a screwdriver into the gap between the Mounting Collar and Contact Block and press it inward in the direction shown at (2). A Lighting Unit can be removed at Unit position 2 on the Mounting Collar.



## Attaching the Reinforcement Plate (Screw terminal block type)

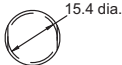

- To link Contact Blocks together, attach a Reinforcement Plate in the direction shown in the following figure. To remove the Plate, insert a screwdriver in the direction indicated at (1) and rotate it in the direction indicated at (2).



## Engraving (Except for Non-Lighted / Opaque Types)

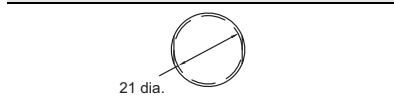
- Engrave legends on the Legend Plates.  
Do so with the straight part of the Legend Plate positioned on the right and left.
- The characters must be engraved no deeper than 0.5 mm. Use an alcohol-based paint, such as a melamine, phthalic acid, or acrylic resin based paint.

### <A22N/A30N>

| Projected, Full-guard, or Mushroom Switches                                       | Flat Switches   |
|---|---|
|  |  |

### <M22N>

#### Flat Resin Legend Plate Type Switches

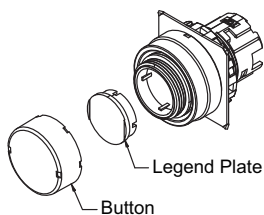


## Attaching Character Films (Except for Non-Lighted / Opaque Types)

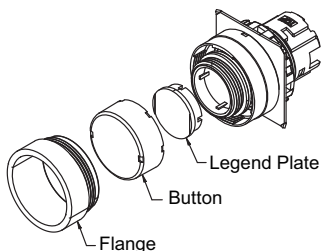
### <A22N/A30N>

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

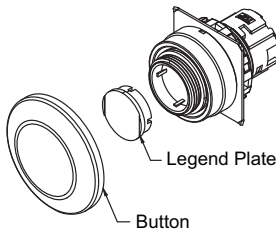
#### Projected Switches



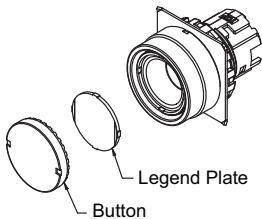
#### Full-guard Switches



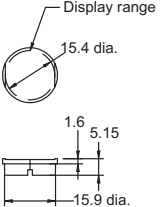
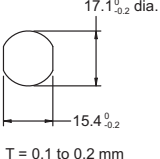
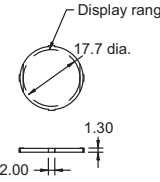
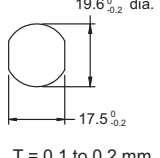
#### Mushroom Switches



#### Flat Switches



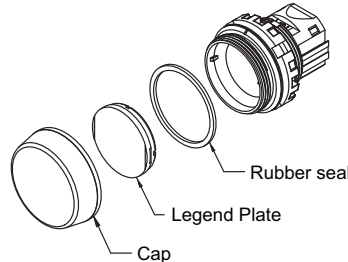
- Prepare films of the following sizes depending on the type of Legend Plate.
- The films must be provided by the user.

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

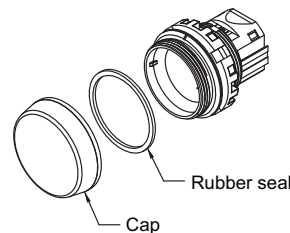
### <M22N>

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

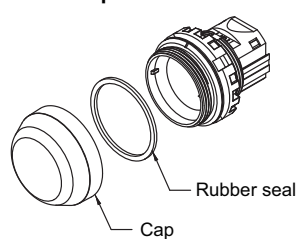
#### Flat Etched Switches



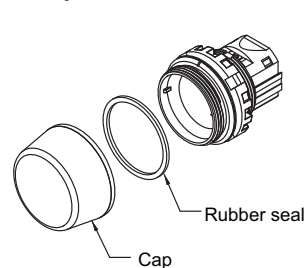
#### Flat Switches



#### Semi-spherical Switches



#### Projected Switches



Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

Safety  
Precautions

# A22N/M22N/A30N

Pushbutton Switches  
A22N

Selector Switches  
A22N

Key-type Selector Switches  
A22N

Indicators  
M22N

Pushbutton Switches  
A30N

Selector Switches  
A30N

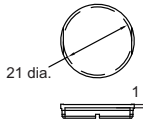
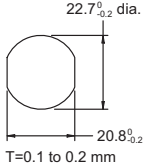
Key-type Selector Switches  
A30N

Subassemblies  
(Common)

Accessories  
and Tools

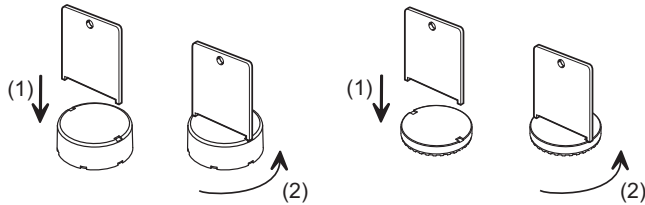
Safety  
Precautions

- Film processing dimensions should be as per the indications below.

|                                |   |
|--------------------------------|---|
| <b>Legend Plate dimensions</b> |  |
| <b>Film dimensions</b>         |  |

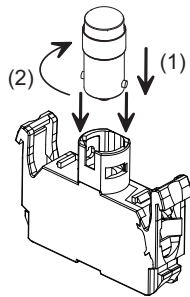
## Removing and Tightening the Cap

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.

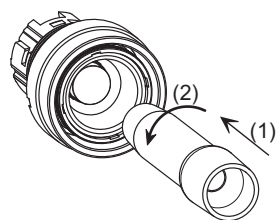


## Attaching and Replacing LED Lamps

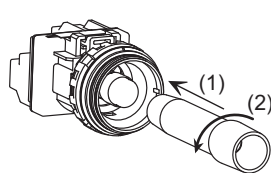
### Removing the LED Lamp from the Panel Surface

- 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.

<A22N>



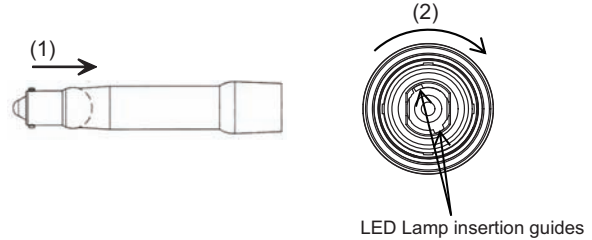
<M22N>



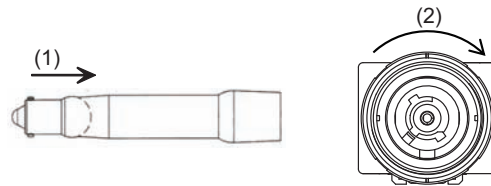
## Attaching the LED Lamp from the Panel Surface

- 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).

<A22N>

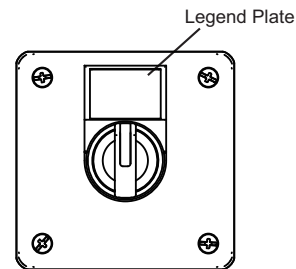


<M22N>



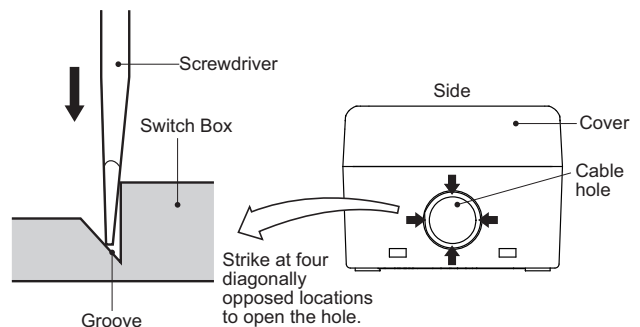
## Control Box

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

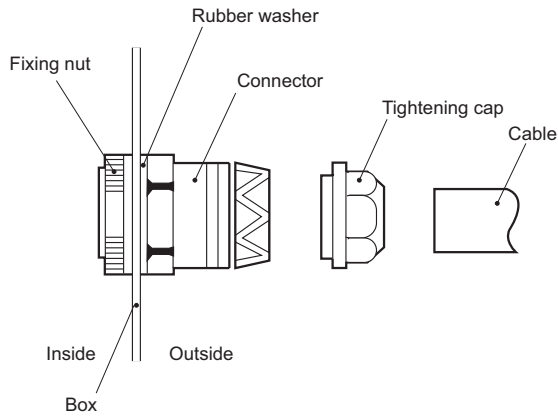
To open a cable hole, leave the cover attached, place the tip of a screwdriver in the grooves at four locations around the cable hole, strike the screwdriver with a hammer in order at the four locations to open the hole, and remove the part from the cable hole.



## Attaching the Connector and Cable

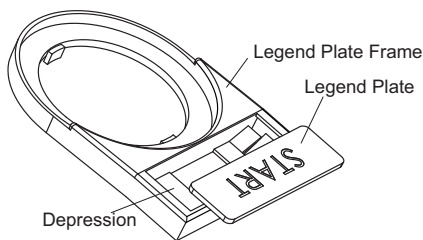
1. Insert the connector into the cable port hole in the Box and secure with the fixing nut inside the box.
2. Run the cable through the tightening cap, insert the cable into the connector, and then tighten the hexagonal nut to secure the cable.

| Cable diameter (mm) | Connector   |
|---------------------|-------------|
| 7 to 9 dia.         | A22Z-3500-1 |
| 9 to 11 dia.        | A22Z-3500-2 |

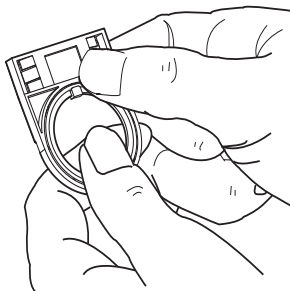


## Attaching and Removing Legend Plates

- 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.



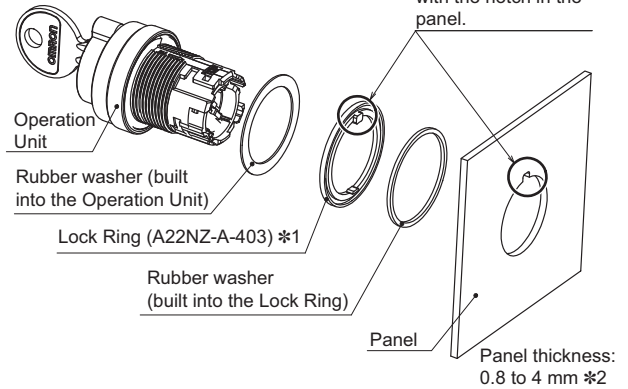
## Attaching the Lock Ring

Attach the Lock Ring as shown in the following figure.

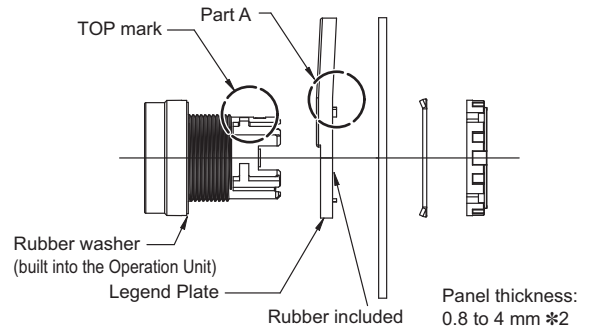
To ensure water resistance, attach the rubber washer in the specified location.

\*1. Lock Ring is sold separately. (Model: A22NZ-A-403)

Align the projection on the Lock Ring with the notch in the panel.

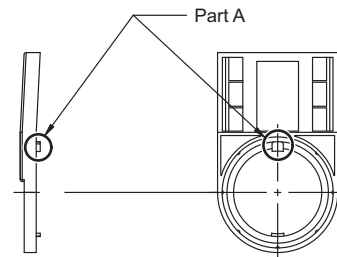


- Align the TOP mark on the Operation Unit, part A on the Legend Plate, and the notch in the panel, and insert the Operation Unit.



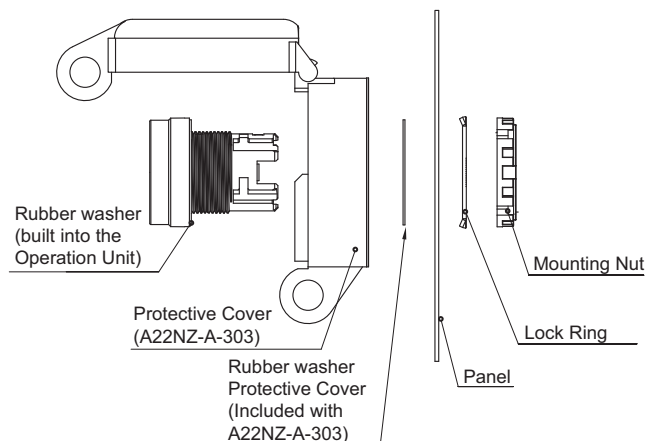
\*2. This is the panel thickness when using Lock Ring.

- 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.



# A22N/M22N/A30N

Pushbutton Switches  
A22NSelector Switches  
A22NKey-type Selector Switches  
A22NIndicators  
M22NPushbutton Switches  
A30NSelector Switches  
A30NKey-type Selector Switches  
A30NSubassemblies  
(Common)Accessories  
and ToolsSafety  
Precautions

## Attaching the Sealing Cap

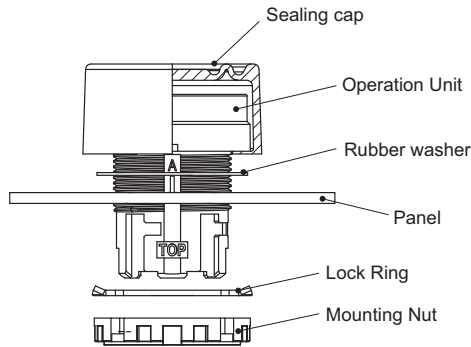
### <A22N/M22N>

- Panel acceptable thickness is given below.

| Panel hole dimension | Panel thickness |
|----------------------|-----------------|
| 22.3 dia.            | 0.8 to 4.2 mm   |
| 25.5 dia.            | 0.8 to 5.2 mm   |

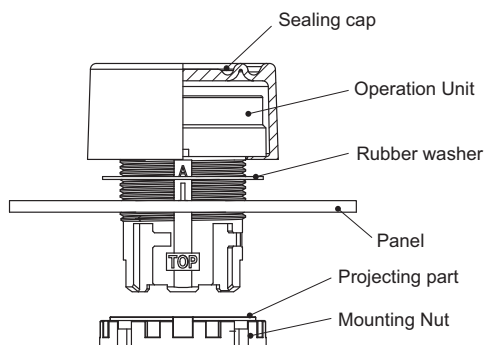
### Panel Hole of 22.3-mm Diameter

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



### Panel Hole of 25.5-mm Diameter

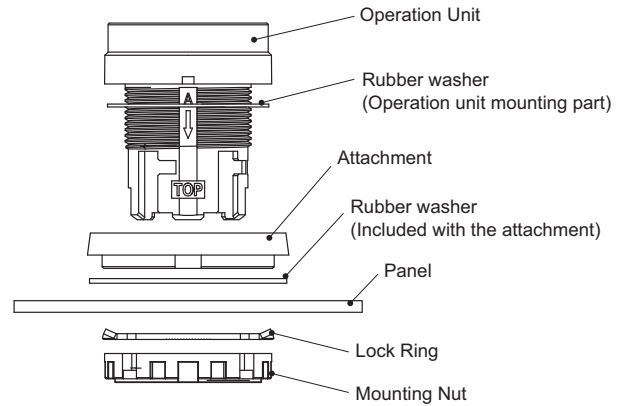
Attach the Sealing cap as shown in the following figure. Do not use the Lock Ring, and tighten the Mounting Nut while confirming that the projecting part on the Mounting Nut is aligned with mounting hole. To ensure water resistance, attach the rubber washer in the specified location.



## Mounting the 30-dia. Resin Attachments

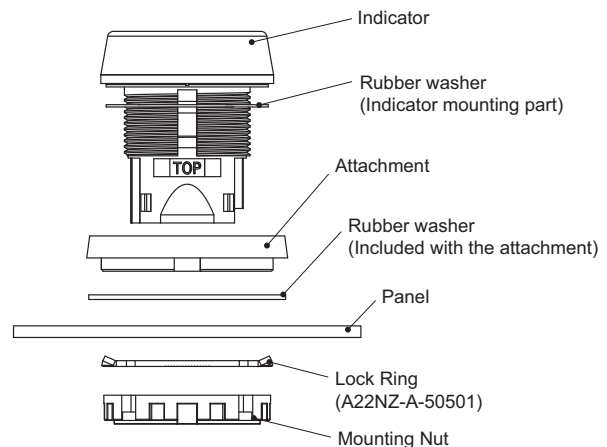
### <A22N>

- Acceptable panel thickness is between 1.8 and 2.2 mm.
- Mount the attachment as shown in the following figure.
- To ensure water resistance, attach the rubber washer in the specified location.



### <M22N>

- Acceptable panel thickness is between 1.8 and 2.2 mm.
- Mount the attachment as shown in the following figure.
- Purchase and mount a separate lock ring (A22NZ-A-50501).
- To ensure water resistance, attach the rubber washer in the specified location.







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