

# Pushbutton Switches

## A22NN/A22NL

### 22-mm Pushbutton Switches

#### Universal Design.

#### Emphasis on Color Coding, Workability, and Safety.

#### Easy to Use

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

#### Safety

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

#### Product Lineup

- Meet global safety standards.
- Available with metal or plastic bezels.
- Many color variations.
- 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 23.

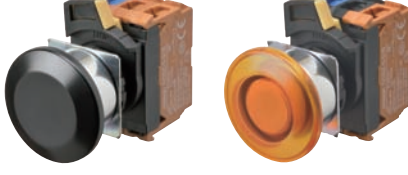
### Button Colors

| Non-lighted<br>Switches | A22NN-□□□-N□<br>Opaque      |  | Red                                                                                 | Green                                                                               | Yellow                                                                              | White                                                                                 | Blue                                                                                  | Black                                                                                 |                                                                                       |                                                                                       |
|-------------------------|-----------------------------|--|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                         |                             |  |  |  |  |  |  |  |                                                                                       |                                                                                       |
|                         | A22NN-□□□-U□<br>Transparent |  | Red                                                                                 | Green                                                                               | Yellow                                                                              | White                                                                                 | Blue                                                                                  | Orange                                                                                |                                                                                       |                                                                                       |
|                         |                             |  |  |  |  |  |  |  |                                                                                       |                                                                                       |
| Lighted<br>Switches     | A22NL-□□□-T□<br>Transparent |  | When<br>not lit                                                                     | Red                                                                                 | Green                                                                               | Yellow                                                                                | White                                                                                 | Blue                                                                                  | Orange                                                                                | White                                                                                 |
|                         |                             |  |                                                                                     |  |  |    |  |  |  |  |
|                         |                             |  | When<br>lit                                                                         | Red                                                                                 | Green                                                                               | Yellow                                                                                | White                                                                                 | Blue                                                                                  | Orange                                                                                | Opaque<br>white*                                                                      |
|                         |                             |  |                                                                                     |  |  |    |  |  |  |  |

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

A22NN/A22NL

List of Models

| Plastic bezels                                                                      | Brushed metal bezels                                                                | Metal bezels                                                                          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| A22N□-BN                                                                            | A22N□-MN                                                                            | A22N□-RN                                                                              |
| Flat                                                                                | Flat                                                                                | Flat                                                                                  |
|    |    |    |
| A22N□-BP                                                                            | A22N□-MP                                                                            | A22N□-RP                                                                              |
| Projected                                                                           | Projected                                                                           | Projected                                                                             |
|    |    |    |
| A22N□-BG                                                                            | A22N□-MG                                                                            |                                                                                       |
| Full guard                                                                          | Full guard                                                                          |                                                                                       |
|   |   |                                                                                       |
| A22N□-BM                                                                            | A22N□-MM                                                                            | A22N□-RM                                                                              |
| Mushroom                                                                            | Mushroom                                                                            | Mushroom                                                                              |
|  |  |  |

## Model Number Structure

**Model Number Legend** - - - - Shipped as a set that includes the Operation Unit, LED Lamp, Mounting Collar, and Contact Block.  
For information on combinations, refer to *Ordering Information* on pages 4 to 7.

### Model Numbers for Sets

(1) (2) (3) (4) (5) (6) (7) (8) (9)  
A 2 2 N L - BN M - TR A - G 100 - R 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     |
| RN   | Metal          | Flat         |
| RP   | Metal          | Projected    |
| RM   | 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        |                |
|                     | UR       | N        | Transparent  | Red          |                |
|                     | UG       | N        | Transparent  | Green        |                |
|                     | UY       | N        | Transparent  | Yellow       |                |
|                     | UW       | N        | Transparent  | White        |                |
|                     | UA       | N        | Transparent  | Blue         |                |
|                     | UO       | N        | Transparent  | Orange       |                |
| 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    | IP66, NEMA 4X, NEMA13 |

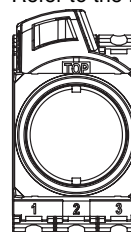
#### (6) Contact Specification

| Code | Description     |
|------|-----------------|
| G    | General purpose |

#### (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 15.  
■ Dimensions: Refer to page 17.

■ Precautions for correct use: Refer to page 23.  
■ Accessories and tools: Refer to page 13.

# A22NN/A22NL

## Ordering Information

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

### Non-lighted, Flat Switches

| Appearance                                                                         | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (2)(2)<br>Button color                                                                                                                                                                                                                                                              | (7)(7)(7)<br>Contacts    |
|------------------------------------------------------------------------------------|----------|-----------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                                                                    |          | Model                             | Model                           |                                                                                                                                                                                                                                                                                     |                          |
|   | 1        | A22NN-BNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-BNA-(2)(2)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<br>UR: Transparent, red<br>UG: Transparent, green<br>UY: Transparent, yellow<br>UW: Transparent, white<br>UA: Transparent, blue<br>UO: Transparent, orange | 100<br>002               |
|                                                                                    | 2        | A22NN-BNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-BNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-BNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-BNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
|   | 1        | A22NN-MNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-MNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                    | 2        | A22NN-MNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-MNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-MNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-MNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
|  | 1        | A22NN-RNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-RNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                    | 2        | A22NN-RNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-RNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-RNM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-RNA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |

### Lighted, Flat Switches

| Appearance                                                                          | Contacts | Momentary action (self-resetting)   | Alternate action (self-holding)     | (2)(2)<br>Button color                                                                                                                                  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color                                               | (9)<br>LED Lamp voltage                                                                     |
|-------------------------------------------------------------------------------------|----------|-------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|                                                                                     |          | Model                               | Model                               |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|  | 1        | A22NL-BNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-BNA-(2)(2)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 |
|                                                                                     | 2        | A22NL-BNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-BNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     | 3        | A22NL-BNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-BNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|  | 1        | A22NL-MNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-MNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-MNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-MNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     | 3        | A22NL-MNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-MNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|  | 1        | A22NL-RNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-RNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-RNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-RNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     | 3        | A22NL-RNM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-RNA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |

**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-G□□□-Y□

■ Subassemblies: Refer to pages 8 to 12.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
 ■ Accessories and tools: Refer to page 13.



## Ordering Information

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

### Non-lighted, Projected Switches

| Appearance                                                                         | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (2)(2)<br>Button color                                                                                                                                                                                                                                                              | (7)(7)(7)<br>Contacts    |
|------------------------------------------------------------------------------------|----------|-----------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                                                                    |          | Model                             | Model                           |                                                                                                                                                                                                                                                                                     |                          |
|   | 1        | A22NN-BPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-BPA-(2)(2)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<br>UR: Transparent, red<br>UG: Transparent, green<br>UY: Transparent, yellow<br>UW: Transparent, white<br>UA: Transparent, blue<br>UO: Transparent, orange | 100<br>002               |
|                                                                                    | 2        | A22NN-BPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-BPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-BPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-BPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
|   | 1        | A22NN-MPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-MPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                    | 2        | A22NN-MPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-MPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-MPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-MPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
|  | 1        | A22NN-RPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-RPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                    | 2        | A22NN-RPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-RPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-RPM-(2)(2)A-G(7)(7)(7)-NN   | A22NN-RPA-(2)(2)A-G(7)(7)(7)-NN |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |

### Lighted, Projected Switches

| Appearance                                                                          | Contacts | Momentary action (self-resetting)   | Alternate action (self-holding)     | (2)(2)<br>Button color                                                                                                                                  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp color                                               | (9)<br>LED Lamp voltage                                                                     |
|-------------------------------------------------------------------------------------|----------|-------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|                                                                                     |          | Model                               | Model                               |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|  | 1        | A22NL-BPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-BPA-(2)(2)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 |
|                                                                                     | 2        | A22NL-BPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-BPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     | 3        | A22NL-BPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-BPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|  | 1        | A22NL-MPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-MPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-MPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-MPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     | 3        | A22NL-MPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-MPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|  | 1        | A22NL-RPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-RPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-RPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-RPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     | 3        | A22NL-RPM-(2)(2)A-G(7)(7)(7)-(8)(9) | A22NL-RPA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |

**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-G□□□-Y□

■ Subassemblies: Refer to pages 8 to 12.  
(You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
■ Accessories and tools: Refer to page 13.

# A22NN/A22NL

## Ordering Information

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

### Non-lighted, Full-guard Switches

| Appearance                                                                                               | Contacts | Momentary action (self-resetting) | Alternate action (self-holding) | (2)(2)<br>Button color                                                                                                                                                                                                                                                              | (7)(7)(7)<br>Contacts    |
|----------------------------------------------------------------------------------------------------------|----------|-----------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                                                                                          |          | Model                             | Model                           |                                                                                                                                                                                                                                                                                     |                          |
| Plastic bezels<br>       | 1        | A22NN-BGM-(2)(2)A-G(7)(7)-NN      | A22NN-BGA-(2)(2)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<br>UR: Transparent, red<br>UG: Transparent, green<br>UY: Transparent, yellow<br>UW: Transparent, white<br>UA: Transparent, blue<br>UO: Transparent, orange | 100<br>002               |
|                                                                                                          | 2        | A22NN-BGM-(2)(2)A-G(7)(7)-NN      | A22NN-BGA-(2)(2)A-G(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                                          | 3        | A22NN-BGM-(2)(2)A-G(7)(7)-NN      | A22NN-BGA-(2)(2)A-G(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
| Brushed metal bezels<br> | 1        | A22NN-MGM-(2)(2)A-G(7)(7)-NN      | A22NN-MGA-(2)(2)A-G(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                                          | 2        | A22NN-MGM-(2)(2)A-G(7)(7)-NN      | A22NN-MGA-(2)(2)A-G(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                                          | 3        | A22NN-MGM-(2)(2)A-G(7)(7)-NN      | A22NN-MGA-(2)(2)A-G(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |

### Lighted, Full-guard Switches

| Appearance                                                                                                 | Contacts | Momentary action (self-resetting) | Alternate action (self-holding)  | (2)(2)<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-BGM-(2)(2)A-G(7)(7)-(8)(9)  | A22NL-BGA-(2)(2)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 |
|                                                                                                            | 2        | A22NL-BGM-(2)(2)A-G(7)(7)-(8)(9)  | A22NL-BGA-(2)(2)A-G(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                                            | 3        | A22NL-BGM-(2)(2)A-G(7)(7)-(8)(9)  | A22NL-BGA-(2)(2)A-G(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
| Brushed metal bezels<br> | 1        | A22NL-MGM-(2)(2)A-G(7)(7)-(8)(9)  | A22NL-MGA-(2)(2)A-G(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                                            | 2        | A22NL-MGM-(2)(2)A-G(7)(7)-(8)(9)  | A22NL-MGA-(2)(2)A-G(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                                            | 3        | A22NL-MGM-(2)(2)A-G(7)(7)-(8)(9)  | A22NL-MGA-(2)(2)A-G(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |

**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□-□□□-IWA-G□□□-Y□

■ Subassemblies: Refer to pages 8 to 12.  
 (You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
 ■ Accessories and tools: Refer to page 13.

## Ordering Information

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

### Non-lighted, Mushroom Switches

| Appearance                                                                         | Contacts | Momentary action<br>(self-resetting) | Alternate action<br>(self-holding) | (2)(2)<br>Button color                                                                                                                                                                                                                                                              | (7)(7)(7)<br>Contacts    |
|------------------------------------------------------------------------------------|----------|--------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                                                                    |          | Model                                | Model                              |                                                                                                                                                                                                                                                                                     |                          |
|   | 1        | A22NN-BMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-BMA-(2)(2)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<br>UR: Transparent, red<br>UG: Transparent, green<br>UY: Transparent, yellow<br>UW: Transparent, white<br>UA: Transparent, blue<br>UO: Transparent, orange | 100<br>002               |
|                                                                                    | 2        | A22NN-BMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-BMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-BMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-BMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
|   | 1        | A22NN-MMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-MMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                    | 2        | A22NN-MMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-MMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-MMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-MMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |
|  | 1        | A22NN-RMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-RMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 100<br>002               |
|                                                                                    | 2        | A22NN-RMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-RMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 101<br>102<br>202        |
|                                                                                    | 3        | A22NN-RMM-(2)(2)A-G(7)(7)(7)-NN      | A22NN-RMA-(2)(2)A-G(7)(7)(7)-NN    |                                                                                                                                                                                                                                                                                     | 111<br>112<br>122<br>222 |

### Lighted, Mushroom Switches

| Appearance                                                                          | Contacts | Momentary action<br>(self-resetting) | Alternate action<br>(self-holding)  | (2)(2)<br>Button color                                                                                                                                  | (7)(7)(7)<br>Contacts | (8)<br>LED Lamp<br>color                                            | (9)<br>LED Lamp voltage                                                                     |
|-------------------------------------------------------------------------------------|----------|--------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|                                                                                     |          | Model                                | Model                               |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|  | 1        | A22NL-BMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-BMA-(2)(2)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-BMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-BMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-BMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-BMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     |          | A22NL-BMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-BMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|  | 1        | A22NL-MMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-MMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                     |          | A22NL-MMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-MMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-MMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-MMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     |          | A22NL-MMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-MMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|  | 1        | A22NL-RMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-RMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 100<br>002            |                                                                     |                                                                                             |
|                                                                                     |          | A22NL-RMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-RMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         |                       |                                                                     |                                                                                             |
|                                                                                     | 2        | A22NL-RMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-RMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         | 101<br>102<br>202     |                                                                     |                                                                                             |
|                                                                                     |          | A22NL-RMM-(2)(2)A-G(7)(7)(7)-(8)(9)  | A22NL-RMA-(2)(2)A-G(7)(7)(7)-(8)(9) |                                                                                                                                                         |                       |                                                                     |                                                                                             |

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

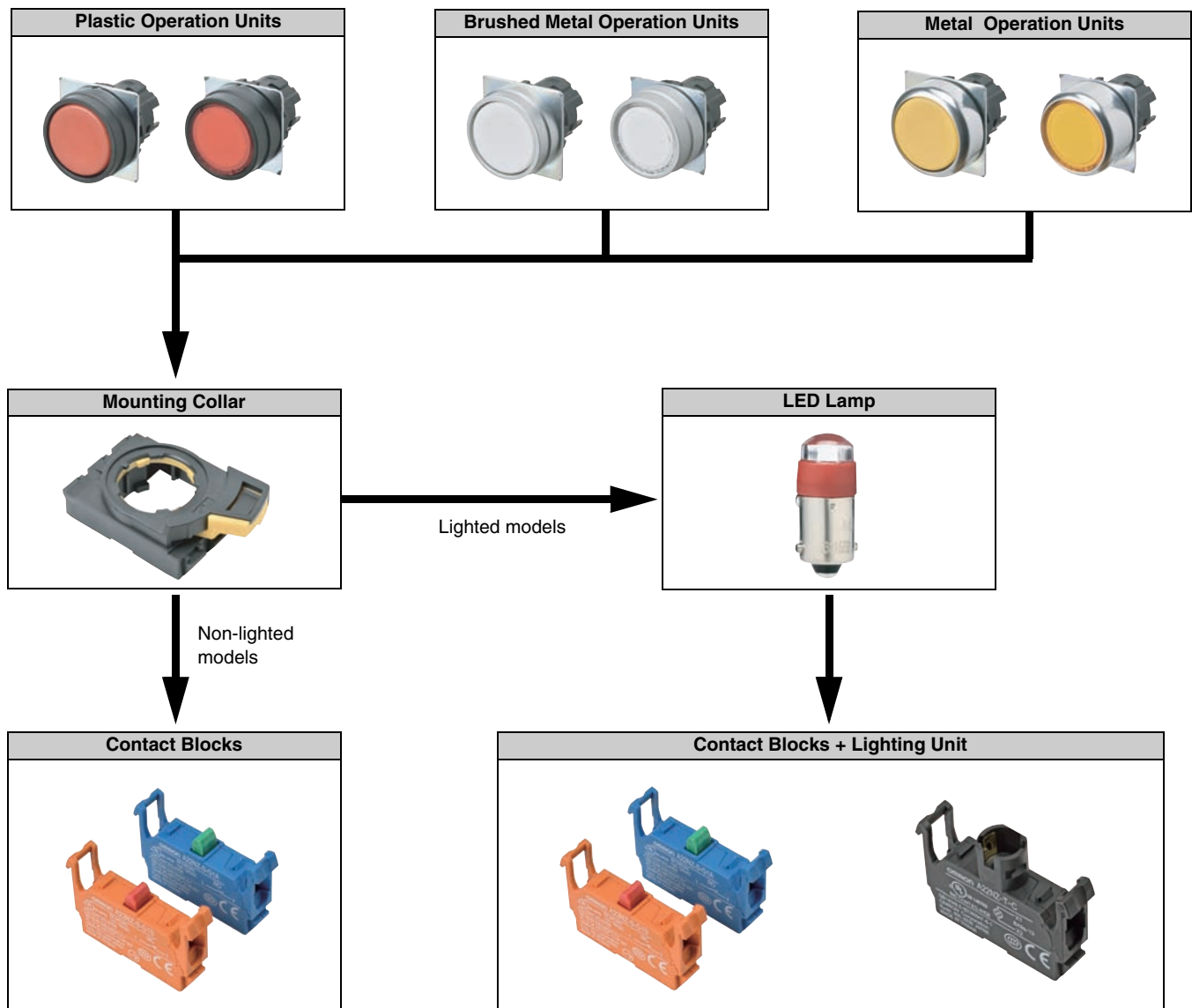
However, opaque white is available by combining a white Button and yellow LED. A22N□-□□□-TWA-G□□□-Y□

■ Subassemblies: Refer to pages 8 to 12.  
(You can order Operation Units, LED Lamps, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
■ Accessories and tools: Refer to page 13.

Ordering Information

**Switch Structure** - - - You can order Operation Units, LED Lamp, 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.



**Note:** Use a Reinforcement Plate for greater strength.



■ Model numbers of sets: Refer to pages 4 to 7.

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
■ Accessories and tools: Refer to page 13.

## 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 Switches. They can also be used as inventory for maintenance parts.

### Operation Units

| Bezel material and button shape |               |        | Plastic, flat                                                                     |                                                                                   | Plastic, projected                                                                 |                                                                                     |
|---------------------------------|---------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                 |               |        |  |  |  |  |
| Lighted/<br>non-lighted         | Switch Action |        | Momentary                                                                         | Alternate                                                                         | Momentary                                                                          | Alternate                                                                           |
|                                 | Transparency  | Color  | 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                                                                       |
|                                 | Transparent   | Red    | A22NZ-BNM-URA                                                                     | A22NZ-BNA-URA                                                                     | A22NZ-BPM-URA                                                                      | A22NZ-BPA-URA                                                                       |
|                                 | Transparent   | Green  | A22NZ-BNM-UGA                                                                     | A22NZ-BNA-UGA                                                                     | A22NZ-BPM-UGA                                                                      | A22NZ-BPA-UGA                                                                       |
|                                 | Transparent   | Yellow | A22NZ-BNM-UYA                                                                     | A22NZ-BNA-UYA                                                                     | A22NZ-BPM-UYA                                                                      | A22NZ-BPA-UYA                                                                       |
|                                 | Transparent   | White  | A22NZ-BNM-UWA                                                                     | A22NZ-BNA-UWA                                                                     | A22NZ-BPM-UWA                                                                      | A22NZ-BPA-UWA                                                                       |
|                                 | Transparent   | Blue   | A22NZ-BNM-UAA                                                                     | A22NZ-BNA-UAA                                                                     | A22NZ-BPM-UAA                                                                      | A22NZ-BPA-UAA                                                                       |
|                                 | Transparent   | Orange | A22NZ-BNM-UOA                                                                     | A22NZ-BNA-UOA                                                                     | A22NZ-BPM-UOA                                                                      | A22NZ-BPA-UOA                                                                       |
| 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                                                                    |                                                                                       |
|---------------------------------|---------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                 |               |        |  |  |  |  |
| Lighted/<br>non-lighted         | Switch Action |        | Momentary                                                                           | Alternate                                                                           | Momentary                                                                            | Alternate                                                                             |
|                                 | Transparency  | Color  | 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                                                                         |
|                                 | Transparent   | Red    | A22NZ-BGM-URA                                                                       | A22NZ-BGA-URA                                                                       | A22NZ-BMM-URA                                                                        | A22NZ-BMA-URA                                                                         |
|                                 | Transparent   | Green  | A22NZ-BGM-UGA                                                                       | A22NZ-BGA-UGA                                                                       | A22NZ-BMM-UGA                                                                        | A22NZ-BMA-UGA                                                                         |
|                                 | Transparent   | Yellow | A22NZ-BGM-UYA                                                                       | A22NZ-BGA-UYA                                                                       | A22NZ-BMM-UYA                                                                        | A22NZ-BMA-UYA                                                                         |
|                                 | Transparent   | White  | A22NZ-BGM-UWA                                                                       | A22NZ-BGA-UWA                                                                       | A22NZ-BMM-UWA                                                                        | A22NZ-BMA-UWA                                                                         |
|                                 | Transparent   | Blue   | A22NZ-BGM-UAA                                                                       | A22NZ-BGA-UAA                                                                       | A22NZ-BMM-UAA                                                                        | A22NZ-BMA-UAA                                                                         |
|                                 | Transparent   | Orange | A22NZ-BGM-UOA                                                                       | A22NZ-BGA-UOA                                                                       | A22NZ-BMM-UOA                                                                        | A22NZ-BMA-UOA                                                                         |
| 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 4 to 7.

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
■ Accessories and tools: Refer to page 13.



## 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 Switches. They can also be used as inventory for maintenance parts.

| Bezel material and button shape |              |        | Brushed metal, flat                                                               |               | Brushed metal, projected                                                           |               |
|---------------------------------|--------------|--------|-----------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------|---------------|
|                                 |              |        |  |               |  |               |
|                                 |              |        | Momentary                                                                         | Alternate     | Momentary                                                                          | Alternate     |
| Lighted/<br>non-lighted         | 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 |
|                                 | Transparent  | Red    | A22NZ-MNM-URA                                                                     | A22NZ-MNA-URA | A22NZ-MPM-URA                                                                      | A22NZ-MPA-URA |
|                                 | Transparent  | Green  | A22NZ-MNM-UGA                                                                     | A22NZ-MNA-UGA | A22NZ-MPM-UGA                                                                      | A22NZ-MPA-UGA |
|                                 | Transparent  | Yellow | A22NZ-MNM-UYA                                                                     | A22NZ-MNA-UYA | A22NZ-MPM-UYA                                                                      | A22NZ-MPA-UYA |
|                                 | Transparent  | White  | A22NZ-MNM-UWA                                                                     | A22NZ-MNA-UWA | A22NZ-MPM-UWA                                                                      | A22NZ-MPA-UWA |
|                                 | Transparent  | Blue   | A22NZ-MNM-UAA                                                                     | A22NZ-MNA-UAA | A22NZ-MPM-UAA                                                                      | A22NZ-MPA-UAA |
|                                 | Transparent  | Orange | A22NZ-MNM-UOA                                                                     | A22NZ-MNA-UOA | A22NZ-MPM-UOA                                                                      | A22NZ-MPA-UOA |
| 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                                                              |               |
|---------------------------------|--------------|--------|-------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------|---------------|
|                                 |              |        |  |               |  |               |
|                                 |              |        | Momentary                                                                           | Alternate     | Momentary                                                                            | Alternate     |
| Lighted/<br>non-lighted         | 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 |
|                                 | Transparent  | Red    | A22NZ-MGM-URA                                                                       | A22NZ-MGA-URA | A22NZ-MMM-URA                                                                        | A22NZ-MMA-URA |
|                                 | Transparent  | Green  | A22NZ-MGM-UGA                                                                       | A22NZ-MGA-UGA | A22NZ-MMM-UGA                                                                        | A22NZ-MMA-UGA |
|                                 | Transparent  | Yellow | A22NZ-MGM-UYA                                                                       | A22NZ-MGA-UYA | A22NZ-MMM-UYA                                                                        | A22NZ-MMA-UYA |
|                                 | Transparent  | White  | A22NZ-MGM-UWA                                                                       | A22NZ-MGA-UWA | A22NZ-MMM-UWA                                                                        | A22NZ-MMA-UWA |
|                                 | Transparent  | Blue   | A22NZ-MGM-UAA                                                                       | A22NZ-MGA-UAA | A22NZ-MMM-UAA                                                                        | A22NZ-MMA-UAA |
|                                 | Transparent  | Orange | A22NZ-MGM-UOA                                                                       | A22NZ-MGA-UOA | A22NZ-MMM-UOA                                                                        | A22NZ-MMA-UOA |
| 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 4 to 7.

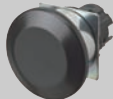
■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
■ Accessories and tools: Refer to page 13.

## 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 Switches. They can also be used as inventory for maintenance parts.

| Bezel material and button shape |               |        | Metal, flat                                                                       |                                                                                   | Metal, projected                                                                   |                                                                                     |
|---------------------------------|---------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                 |               |        |  |  |  |  |
| Lighted/<br>non-lighted         | Switch Action |        | Momentary                                                                         | Alternate                                                                         | Momentary                                                                          | Alternate                                                                           |
|                                 | Transparency  | Color  | Model                                                                             | Model                                                                             | Model                                                                              | Model                                                                               |
| Non-lighted                     | Opaque        | Red    | A22NZ-RNM-NRA                                                                     | A22NZ-RNA-NRA                                                                     | A22NZ-RPM-NRA                                                                      | A22NZ-RPA-NRA                                                                       |
|                                 | Opaque        | Green  | A22NZ-RNM-NGA                                                                     | A22NZ-RNA-NGA                                                                     | A22NZ-RPM-NGA                                                                      | A22NZ-RPA-NGA                                                                       |
|                                 | Opaque        | Yellow | A22NZ-RNM-NYA                                                                     | A22NZ-RNA-NYA                                                                     | A22NZ-RPM-NYA                                                                      | A22NZ-RPA-NYA                                                                       |
|                                 | Opaque        | White  | A22NZ-RNM-NWA                                                                     | A22NZ-RNA-NWA                                                                     | A22NZ-RPM-NWA                                                                      | A22NZ-RPA-NWA                                                                       |
|                                 | Opaque        | Blue   | A22NZ-RNM-NAA                                                                     | A22NZ-RNA-NAA                                                                     | A22NZ-RPM-NAA                                                                      | A22NZ-RPA-NAA                                                                       |
|                                 | Opaque        | Black  | A22NZ-RNM-NBA                                                                     | A22NZ-RNA-NBA                                                                     | A22NZ-RPM-NBA                                                                      | A22NZ-RPA-NBA                                                                       |
|                                 | Transparent   | Red    | A22NZ-RNM-URA                                                                     | A22NZ-RNA-URA                                                                     | A22NZ-RPM-URA                                                                      | A22NZ-RPA-URA                                                                       |
|                                 | Transparent   | Green  | A22NZ-RNM-UGA                                                                     | A22NZ-RNA-UGA                                                                     | A22NZ-RPM-UGA                                                                      | A22NZ-RPA-UGA                                                                       |
|                                 | Transparent   | Yellow | A22NZ-RNM-UYA                                                                     | A22NZ-RNA-UYA                                                                     | A22NZ-RPM-UYA                                                                      | A22NZ-RPA-UYA                                                                       |
|                                 | Transparent   | White  | A22NZ-RNM-UWA                                                                     | A22NZ-RNA-UWA                                                                     | A22NZ-RPM-UWA                                                                      | A22NZ-RPA-UWA                                                                       |
|                                 | Transparent   | Blue   | A22NZ-RNM-UAA                                                                     | A22NZ-RNA-UAA                                                                     | A22NZ-RPM-UAA                                                                      | A22NZ-RPA-UAA                                                                       |
|                                 | Transparent   | Orange | A22NZ-RNM-UOA                                                                     | A22NZ-RNA-UOA                                                                     | A22NZ-RPM-UOA                                                                      | A22NZ-RPA-UOA                                                                       |
| Lighted                         | Transparent   | Red    | A22NZ-RNM-TRA                                                                     | A22NZ-RNA-TRA                                                                     | A22NZ-RPM-TRA                                                                      | A22NZ-RPA-TRA                                                                       |
|                                 | Transparent   | Green  | A22NZ-RNM-TGA                                                                     | A22NZ-RNA-TGA                                                                     | A22NZ-RPM-TGA                                                                      | A22NZ-RPA-TGA                                                                       |
|                                 | Transparent   | Yellow | A22NZ-RNM-TYA                                                                     | A22NZ-RNA-TYA                                                                     | A22NZ-RPM-TYA                                                                      | A22NZ-RPA-TYA                                                                       |
|                                 | Transparent   | White  | A22NZ-RNM-TWA                                                                     | A22NZ-RNA-TWA                                                                     | A22NZ-RPM-TWA                                                                      | A22NZ-RPA-TWA                                                                       |
|                                 | Transparent   | Blue   | A22NZ-RNM-TAA                                                                     | A22NZ-RNA-TAA                                                                     | A22NZ-RPM-TAA                                                                      | A22NZ-RPA-TAA                                                                       |
|                                 | Transparent   | Orange | A22NZ-RNM-TOA                                                                     | A22NZ-RNA-TOA                                                                     | A22NZ-RPM-TOA                                                                      | A22NZ-RPA-TOA                                                                       |

| Bezel material and button shape |               |        | Metal, mushroom                                                                     |                                                                                     |
|---------------------------------|---------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                 |               |        |  |  |
| Lighted/<br>non-lighted         | Switch Action |        | Momentary                                                                           | Alternate                                                                           |
|                                 | Transparency  | Color  | Model                                                                               | Model                                                                               |
| Non-lighted                     | Opaque        | Red    | A22NZ-RMM-NRA                                                                       | A22NZ-RMA-NRA                                                                       |
|                                 | Opaque        | Green  | A22NZ-RMM-NGA                                                                       | A22NZ-RMA-NGA                                                                       |
|                                 | Opaque        | Yellow | A22NZ-RMM-NYA                                                                       | A22NZ-RMA-NYA                                                                       |
|                                 | Opaque        | White  | A22NZ-RMM-NWA                                                                       | A22NZ-RMA-NWA                                                                       |
|                                 | Opaque        | Blue   | A22NZ-RMM-NAA                                                                       | A22NZ-RMA-NAA                                                                       |
|                                 | Opaque        | Black  | A22NZ-RMM-NBA                                                                       | A22NZ-RMA-NBA                                                                       |
|                                 | Transparent   | Red    | A22NZ-RMM-URA                                                                       | A22NZ-RMA-URA                                                                       |
|                                 | Transparent   | Green  | A22NZ-RMM-UGA                                                                       | A22NZ-RMA-UGA                                                                       |
|                                 | Transparent   | Yellow | A22NZ-RMM-UYA                                                                       | A22NZ-RMA-UYA                                                                       |
|                                 | Transparent   | White  | A22NZ-RMM-UWA                                                                       | A22NZ-RMA-UWA                                                                       |
|                                 | Transparent   | Blue   | A22NZ-RMM-UAA                                                                       | A22NZ-RMA-UAA                                                                       |
|                                 | Transparent   | Orange | A22NZ-RMM-UOA                                                                       | A22NZ-RMA-UOA                                                                       |
| Lighted                         | Transparent   | Red    | A22NZ-RMM-TRA                                                                       | A22NZ-RMA-TRA                                                                       |
|                                 | Transparent   | Green  | A22NZ-RMM-TGA                                                                       | A22NZ-RMA-TGA                                                                       |
|                                 | Transparent   | Yellow | A22NZ-RMM-TYA                                                                       | A22NZ-RMA-TYA                                                                       |
|                                 | Transparent   | White  | A22NZ-RMM-TWA                                                                       | A22NZ-RMA-TWA                                                                       |
|                                 | Transparent   | Blue   | A22NZ-RMM-TAA                                                                       | A22NZ-RMA-TAA                                                                       |
|                                 | Transparent   | Orange | A22NZ-RMM-TOA                                                                       | A22NZ-RMA-TOA                                                                       |

■ Model numbers of sets: Refer to pages 4 to 7.

■ Specifications: Refer to page 15. ■ Dimensions: Refer to page 17.  
■ Accessories and tools: Refer to page 13.

# A22NN/A22NL

## 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 Switches. They can also be used as inventory for maintenance parts.

### LED Lamps

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

### Mounting Collar

| Appearance                                                                        | Model      |
|-----------------------------------------------------------------------------------|------------|
|  | A22NZ-H-01 |

### Contact Blocks

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

### Lighting Units

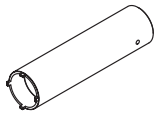
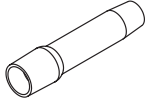
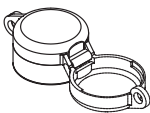
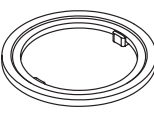
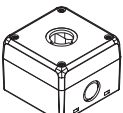
| Appearance                                                                          | Applied voltage     | Model     |
|-------------------------------------------------------------------------------------|---------------------|-----------|
|  | 6 VAC/DC            | A22NZ-T-A |
|                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

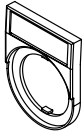
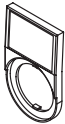
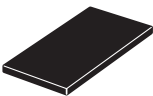
### Reinforcement Plate

| Appearance                                                                          | Model       |
|-------------------------------------------------------------------------------------|-------------|
|  | A22NZ-A-C01 |

## Ordering Information

### Accessories and Tools (Order Separately)

| Item                  | Appearance                                                                          | Classification | Model                | Remarks                                                                                                                                                |
|-----------------------|-------------------------------------------------------------------------------------|----------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                         |
| Protective Cover      |    | ---            | <b>A22NZ-A-303</b>   | A protector designed to prevent incorrect operation. Cannot be used together with other accessories. (Rubber seal included.)                           |
| 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.)                      |
| Lock Ring             |  | Round          | <b>A22NZ-A-403</b>   | Used when a more secure lock is required to prevent rotation inside the Operation Unit.<br>(Rubber seal included.)<br>For 22.3-mm panel hole diameter. |
| Lock Ring             |  | ---            | <b>A22NZ-A-50501</b> | Used when a more secure lock is required to prevent rotation of the Operation Unit.                                                                    |
| Control Box           |  | 1 hole         | <b>A22NZ-A-B01Y</b>  |                                                                                                                                                        |
| Cap Tightening Wrench |  | ---            | <b>A22Z-3908</b>     | Used to replace the Caps on Flat, Projected, and Full-guard Push-button Switches.                                                                      |

| Item                     | Appearance                                                                          | Classification | Model                | Remarks                                                                                        |
|--------------------------|-------------------------------------------------------------------------------------|----------------|----------------------|------------------------------------------------------------------------------------------------|
| Small Legend Plate Frame |    | Black          | <b>A22NZ-A-50103</b> | Legend Plate with no text on black background included.<br>For 22.3-mm panel hole diameter.    |
| Small Legend Plates      |    | 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>  | Legend Plate with white text on black background included.<br>For 22.3-mm panel hole diameter. |
|                          |                                                                                     | 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.<br>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                                                                                    |

## 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 (GB14048.5)

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

### Ratings

#### Contacts (Standard Load)

|                          |                        |       |       |        |       |       |
|--------------------------|------------------------|-------|-------|--------|-------|-------|
| Rated insulation voltage |                        | 600 V |       |        |       |       |
| Rated carry current      |                        | 10 A  |       |        |       |       |
| Applied voltage          |                        | 24 V  | 120 V | 240 V  | 380 V | 440 V |
| AC at 50/60 Hz           | Resistive load (AC-12) | 10 A  | 10 A  | 6 A    | 2 A   | 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  | Approx. 12 mA (red, orange, yellow, or blue)<br>Approx. 5 mA (white or green) |
| 200 VAC       | 200 VAC ±10%    |                                                                               |
| 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)                                                                 |                            |
| Contact resistance                                |                                    |      | 100 mΩ max. (initial value)                                                              |                            |
| Dielectric strength                               | Between terminals of same polarity |      | 2,500 VAC at 50/60 Hz for 1 min                                                          |                            |
|                                                   | Between each terminal and ground   |      | 2,500 VAC at 50/60 Hz for 1 min                                                          |                            |
| Vibration resistance                              | Malfunction                        |      | 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)                           |                            |
| Shock resistance                                  | Malfunction                        |      | 1,000 m/s <sup>2</sup> max. (malfunction within 1 ms)                                    |                            |
| Durability                                        | Mechanical                         |      | Momentary action: 5,000,000 operations min.<br>Alternate action: 500,000 operations min. |                            |
|                                                   | Electrical                         |      | 500,000 operations min.                                                                  |                            |
| Ambient operating temperature* <sup>1</sup>       |                                    |      | -25 to 70°C                                                                              | -25 to 55°C                |
| Ambient operating humidity                        |                                    |      | 35% to 85% RH                                                                            |                            |
| Ambient storage temperature* <sup>1</sup>         |                                    |      | -40 to 80°C                                                                              |                            |
| Degree of protection* <sup>2</sup>                |                                    |      | IP66, NEMA 4X, NEMA13                                                                    |                            |
| Electric shock protection class                   |                                    |      | Class II                                                                                 |                            |
| PTI (tracking characteristic)                     |                                    |      | 175                                                                                      |                            |
| Degree of contamination (application environment) |                                    |      | 3 (IEC 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



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.

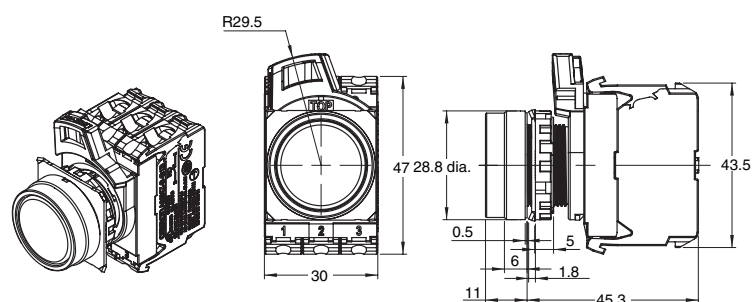
## Dimensions

(Unit: mm)

### Lighted and Non-lighted Pushbutton Switches

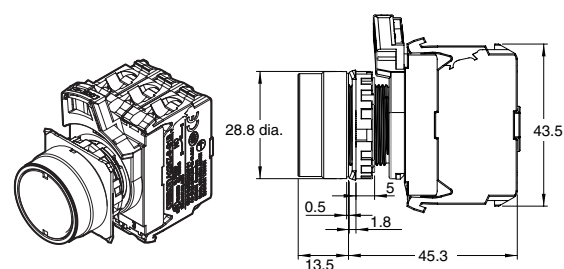
#### Flat Switches with Plastic Bezels

A22NN-BN□-N□A-G□-NN



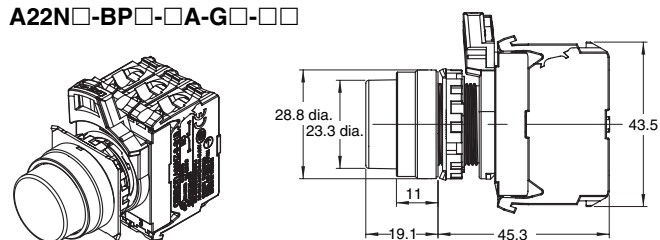
A22NL-BN□-T□A-G□-□□

A22NN-BN□-U□A-G□-NN



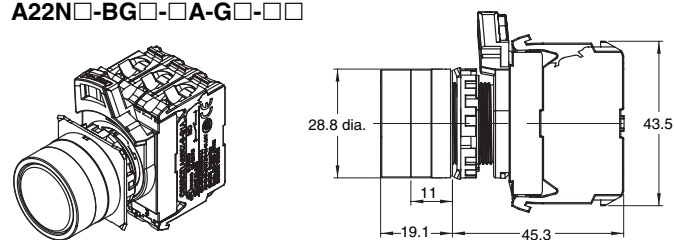
#### Projected Switches with Plastic Bezels

A22N□-BP□-□A-G□-□□



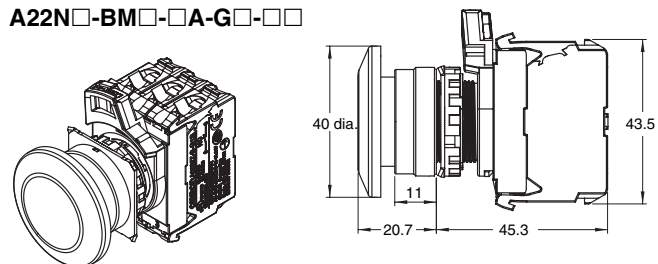
#### Full-guard Switches with Plastic Bezels

A22N□-BG□-□A-G□-□□



#### Mushroom Switches with Plastic Bezels

A22N□-BM□-□A-G□-□□



# A22NN/A22NL

## Dimensions

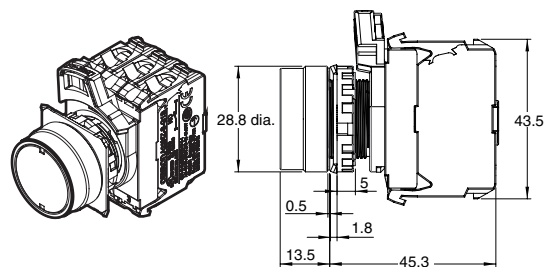
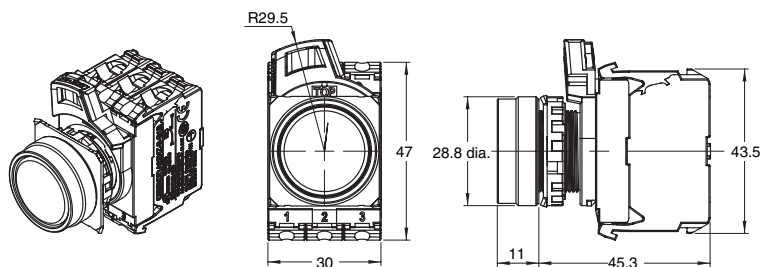
(Unit: mm)

### Flat Switches with Brushed Metal Bezels

A22NN-MN□-N□A-G□-NN

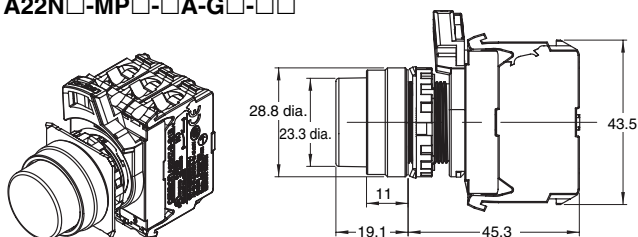
A22NL-MN□-T□A-G□-□□

A22NN-MN□-U□A-G□-NN



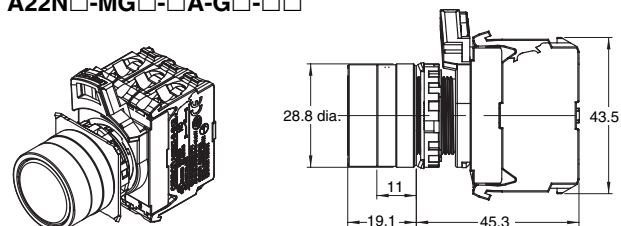
### Projected Switches with Brushed Metal Bezels

A22N□-MP□-□A-G□-□□



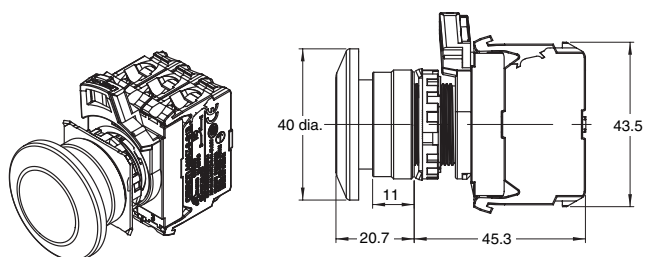
### Full-guard Switches with Brushed Metal Bezels

A22N□-MG□-□A-G□-□□



### Mushroom Switches with Brushed Metal Bezels

A22N□-MM□-□A-G□-□□



Dimensions

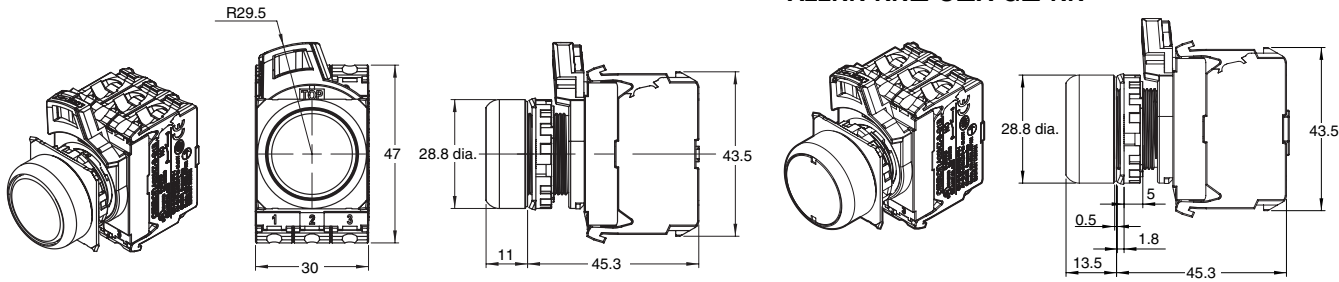
(Unit: mm)

Flat Switches with Metal Bezels

A22NN-RN□-N□A-G□-NN

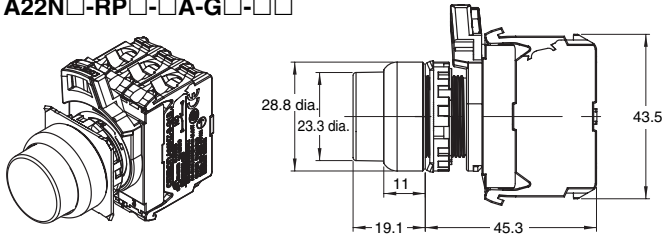
A22NL-RN□-T□A-G□-□□

A22NN-RN□-U□A-G□-NN



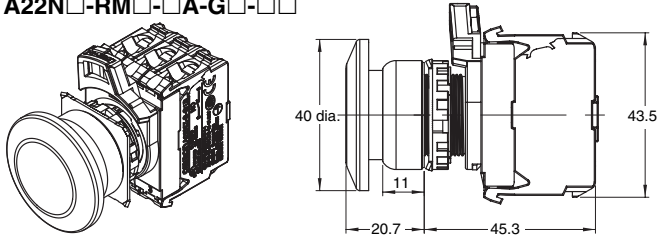
Projected Switches with Metal Bezels

A22N□-RP□-□A-G□-□□

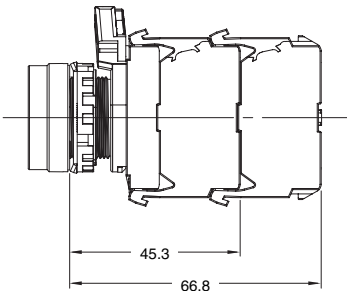


Mushroom Switches with Metal Bezels

A22N□-RM□-□A-G□-□□

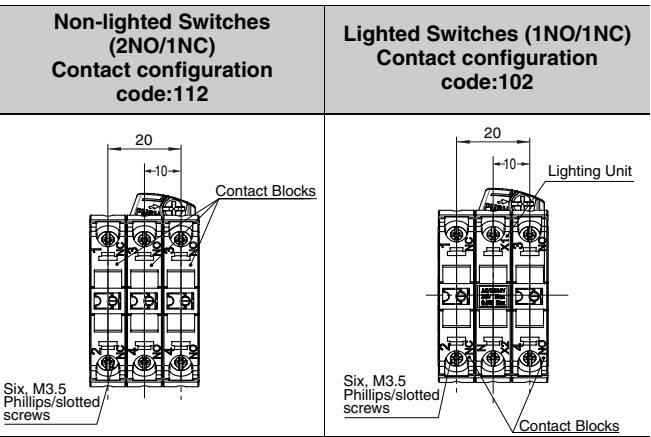


Depth with Linked Units

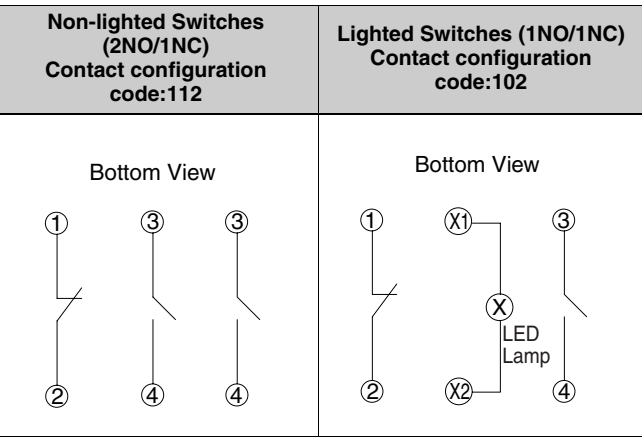


Terminal Wiring Diagrams

Bottom View



Terminal Connection Diagrams



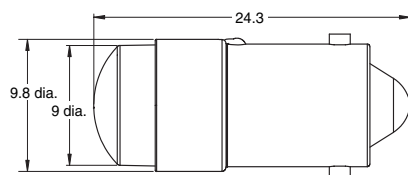
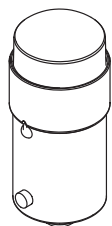
# A22NN/A22NL

## Dimensions

(Unit: mm)

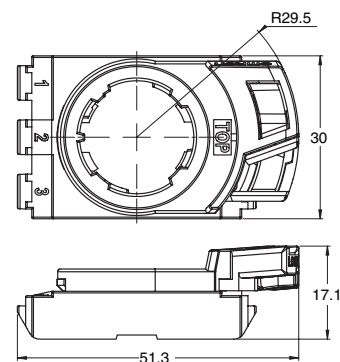
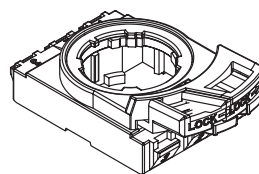
### LED Lamps

A22NZ-L-□□



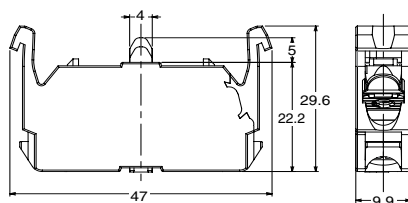
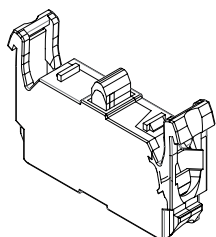
### Mounting Collar

A22NZ-H-01



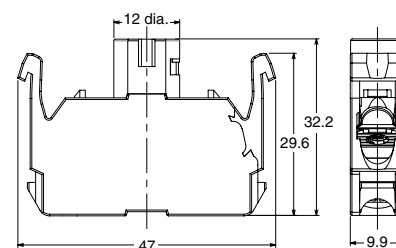
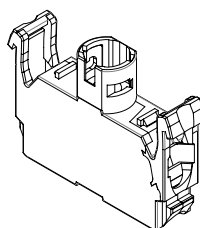
### Contact Blocks

A22NZ-S-G1□



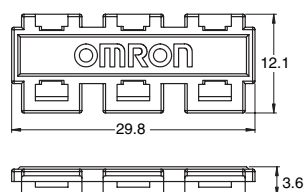
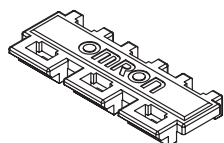
### Lighting Units

A22NZ-Z-□



### Reinforcement Plate

A22NZ-A-C01

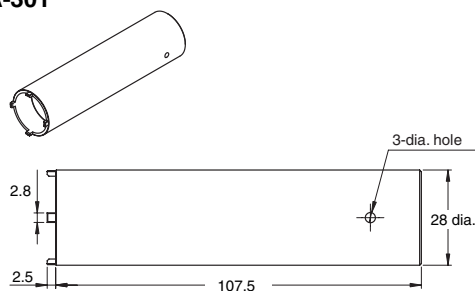


## Dimensions

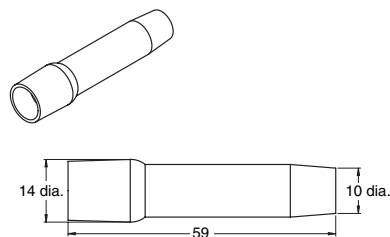
(Unit: mm)

### Dimensions of Accessories

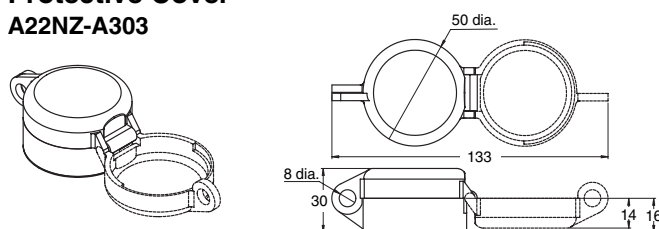
**Tightening Wrench**  
A22NZ-A-301



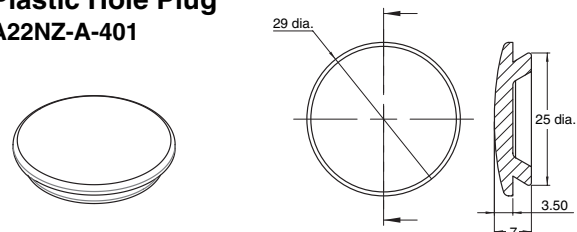
**LED Extractor**  
A22NZ-A-302



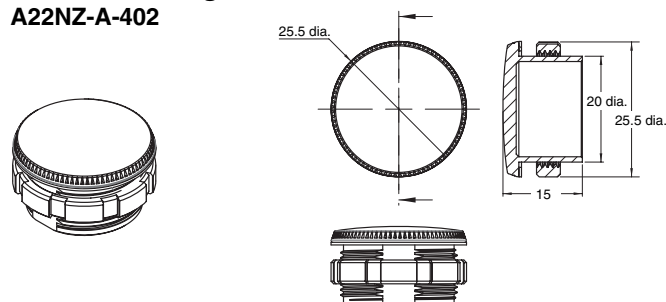
**Protective Cover**  
A22NZ-A303



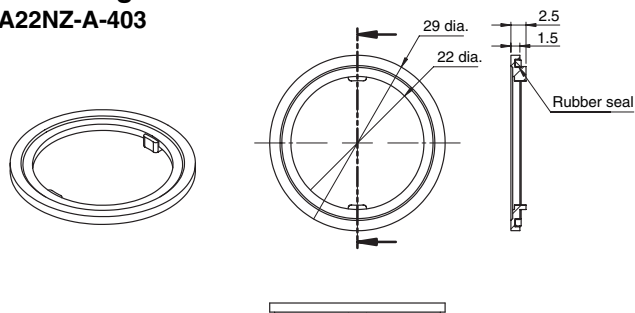
**Plastic Hole Plug**  
A22NZ-A-401



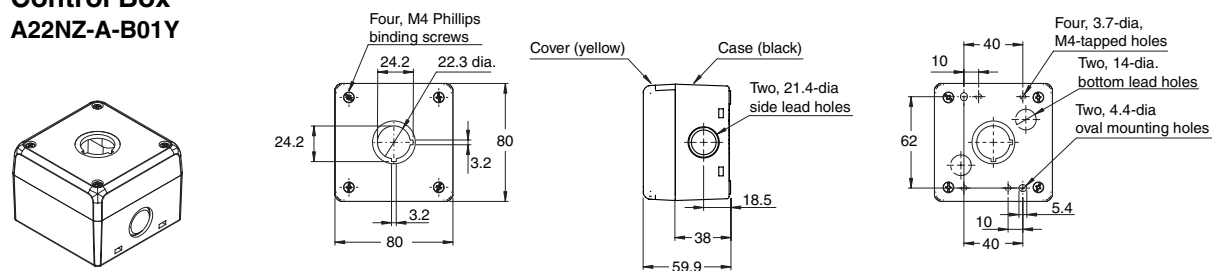
**Metal Hole Plug**  
A22NZ-A-402



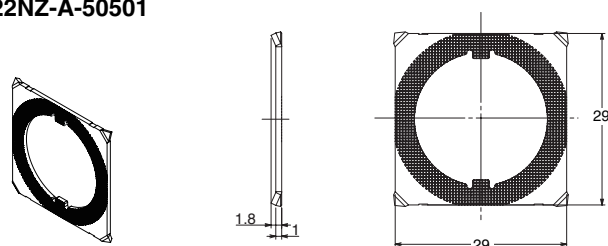
**Lock Ring**  
A22NZ-A-403



**Control Box**  
A22NZ-A-B01Y



**Lock Ring**  
A22NZ-A-50501



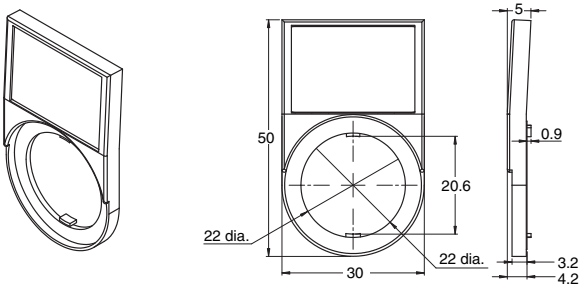
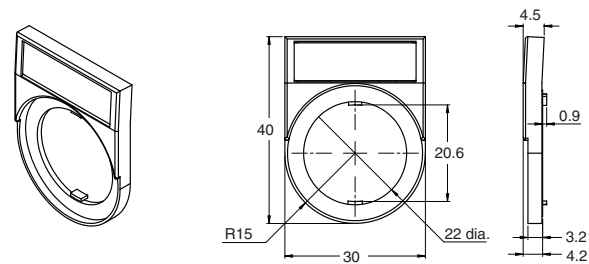
Dimensions

(Unit: mm)

Legend Plate Frames

Small A22NZ-A-50103

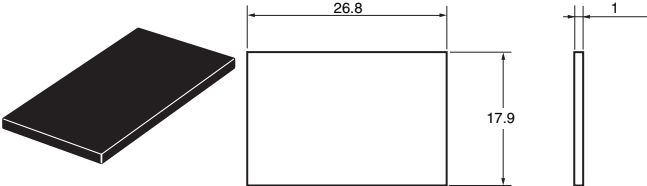
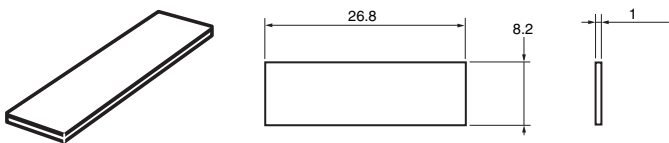
Large A22NZ-A-51103



Legend Plates

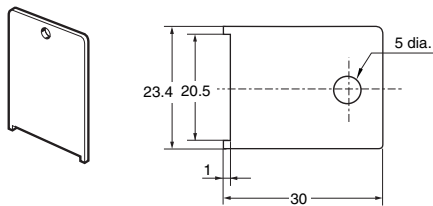
Small A22Z-3443□-□

Large A22Z-3453□



Cap Tightening Wrench

A22Z-3908





## Safety Precautions

### Refer to Safety Precautions for All Pushbutton Switches/Indicators.

#### Precautions for Safe Use

- Never perform wiring work on a Switch while power is being supplied. Never touch terminals and other charged parts while power is being supplied. Doing so may result in electrical shock.
- Never attempt to disassemble or modify the Switch in any way. Doing so may prevent correct operation.
- Switch functionality may be inhibited. Do not drop the Switch. Never apply a force that would deform or alter the nature of the Switch.
- The durability of the Switch is greatly affected by operating conditions. Evaluate the Switch under actual working conditions before permanent installation and use the Switch within a number of switching operations that will not adversely affect the Switch's performance.
- Do not use a load voltage or current that exceeds the rating. Doing so may damage or cause burning in the Switch.
- Do not use the Switch in a location with inflammable or explosive gases, or where the Switch would be subjected to inflammable solvents. The arcs and heat generated when the Switch is operated can cause ignition or explosions.
- Do not use the Switch where sulfur gas ( $\text{H}_2\text{S}$ ,  $\text{SO}_2$ ), ammonia gas ( $\text{NH}_3$ ), nitric acid gas ( $\text{HNO}_3$ ), chlorine gas ( $\text{Cl}_2$ ), or other harmful gases are present or where high humidity is present. Contact faults and damage due to corrosion may interfere with the functionality of the Switch.
- Do not use the Switch in oil or water or in an environment subject to constant contact with oil or water. The oil or water may enter the Switch, causing failure.
- Do not use or store the Switch in the following locations.
  - Locations subject to rapid temperature changes
  - Locations subject to condensation due to high humidity
  - Locations subject to vibration
  - Locations subject to direct sunlight
  - Locations subject to salty air
- Make sure that the rubber washer is in place between the Operation Unit and the panel. Otherwise, the specifications of the protective structure may not be satisfied.
- Do not subject the Contact Block or wiring to excessive force. The Contact Block may be damaged or deformed and faulty contact may occur.

#### Precautions for Correct Use

##### Mounting

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

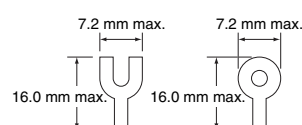
##### Wiring

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

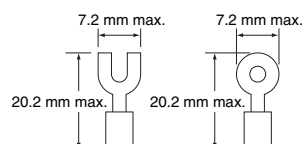
Stranded wires: AWG14 to AWG16

Solid wire: 1.6 dia. max.

Bare Crimp Terminals



Crimp Terminals with Insulating Sheaths



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

##### Operating Environment

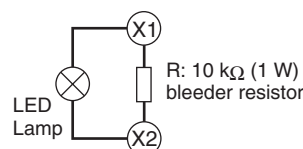
- The Switch is intended for indoor use only. Using the Switch outdoors will result in failure.

##### LED Lamps

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

##### Example of Circuit to Prevent False Lighting

For 24 VAC/VDC Lighting Unit



## Application

### Mounting to the Panel

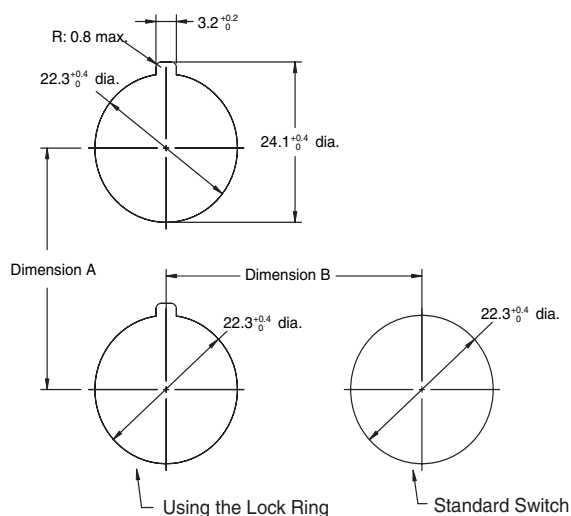
#### Panel Hole Dimensions

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

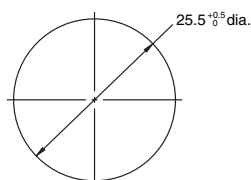
| Panel hole dimension | Panel thickness |
|----------------------|-----------------|
| 22.3 dia.            | 0.8 to 5 mm     |
| 25.5 dia.            | 0.8 to 6 mm     |

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

#### Panel Hole Dimensions for 22.3 Diameter



#### Panel Hole Dimensions for 25.5 Diameter



#### Dimension A

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

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

#### Dimension A When Using Accessory

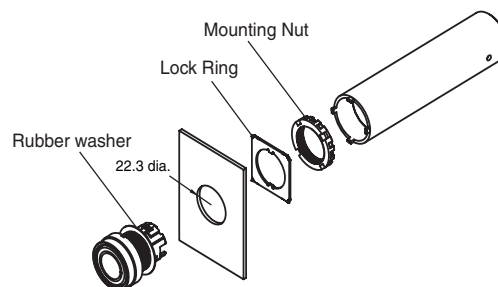
- Dimension A is 50 mm minimum when a Standard Legend Plate Frame is attached.
- Dimension A is 51 mm minimum when a Large Legend Plate Frame is attached.
- Dimension A is 75 mm minimum when a Protective Cover is attached.

#### Dimension B

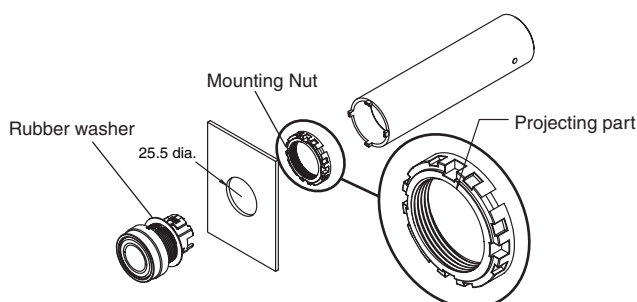
| Operation Unit shape | Dimension B |
|----------------------|-------------|
| Mushroom             | 40 mm min.  |
| Other than the above | 30 mm min.  |

#### Mounting the Operation Unit

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



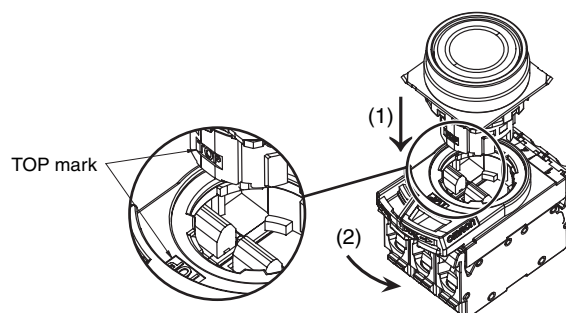
- Panel Hole of 25.5-mm Diameter**  
Do not use the Lock Ring, and tighten the Mounting Nut while confirming that the projecting part (see following figure) on the Mounting Nut is aligned with mounting hole. Before tightening, check that the rubber washer is present between the Operation Unit and the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



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

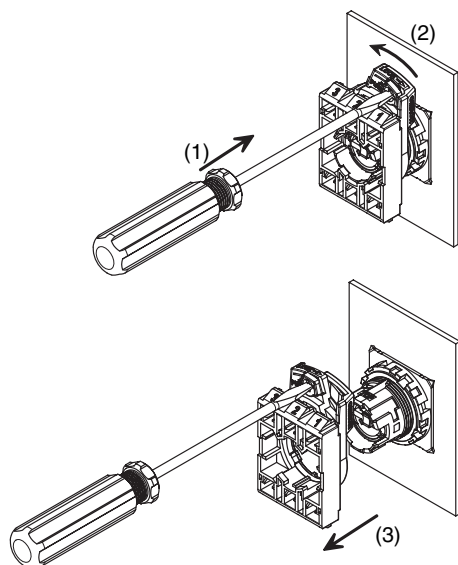
#### Mounting the Contact Block to the Operation Unit

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



### Removing the Mounting Collar

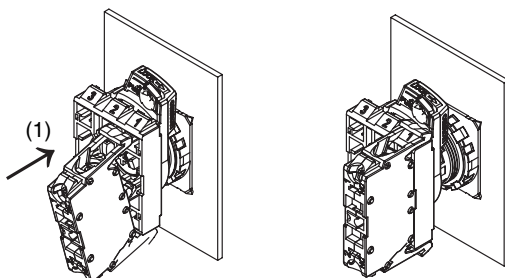
- Press the lock lever in from the back side to release the lock, and then hook the Mounting Collar with a screwdriver, move it in the direction indicated at (2), and remove it. Turn the lever all of the way until it clicks into place.



### Contact Block

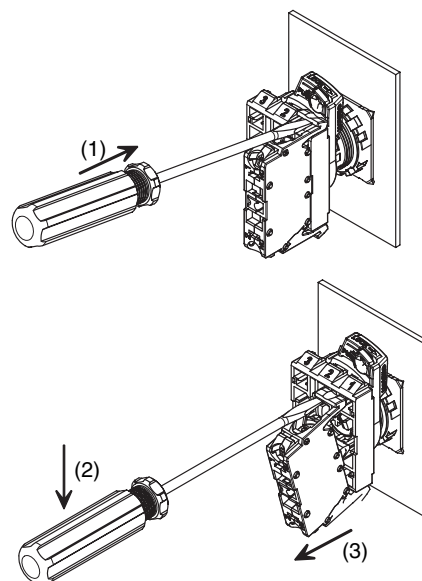
#### Attaching the Contact Block

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



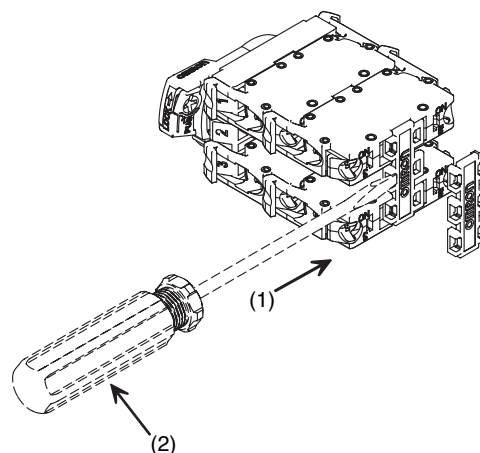
### Removing the Contact Block

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



### Attaching the Reinforcement Plate

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



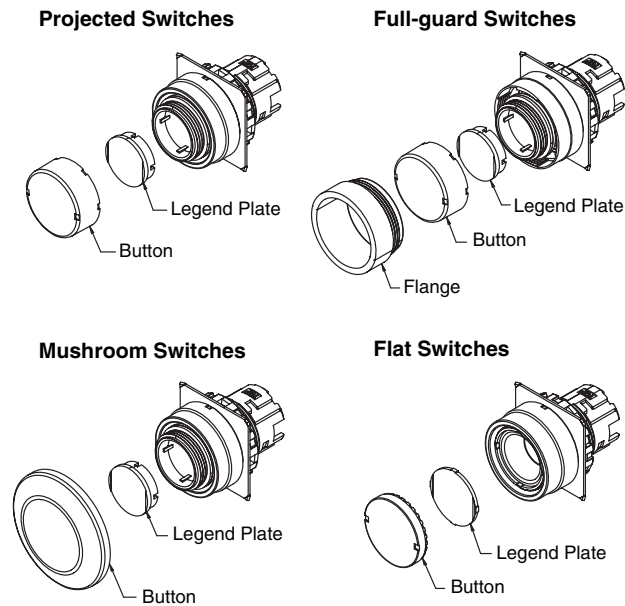
### Engraving

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

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

Attaching Character Films

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

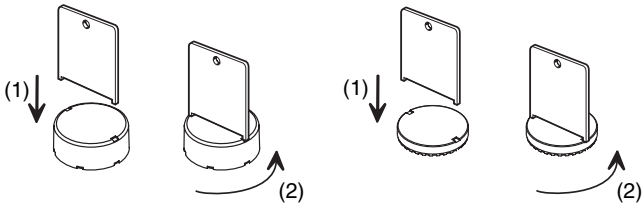


- Prepare films of the following sizes depending on the type of Legend Plate.

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

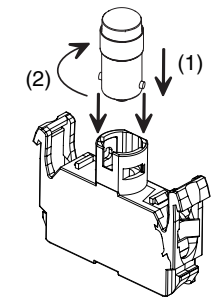
Removing and Tightening the Cap

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



Attaching the LED Lamp to the Lighting Unit

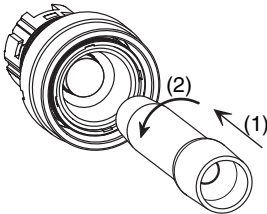
- Insert the protrusions on the LED Lamp into the guides on the Lighting Unit and then turn the LED Lamp in direction (2) to lock it in place.



Attaching and Replacing LED Lamps

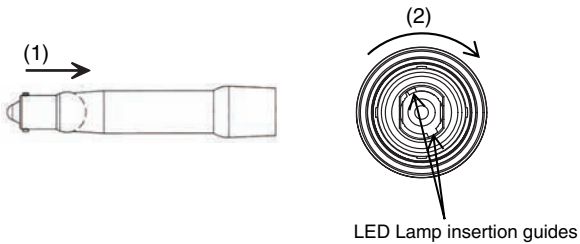
Removing the LED Lamp from the Panel Surface

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



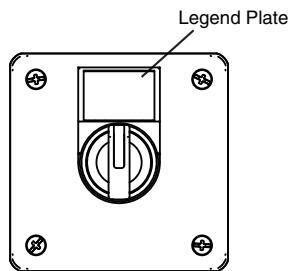
Attaching the LED Lamp from the Panel Surface

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



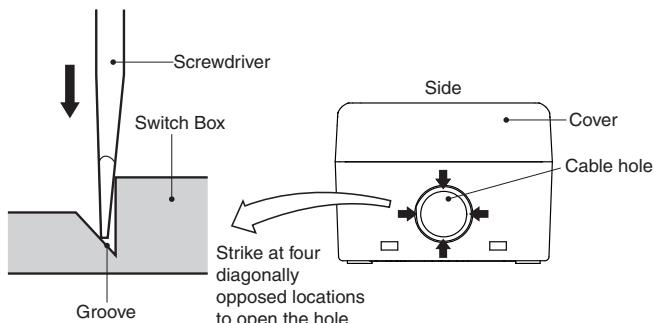
## Control Box

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



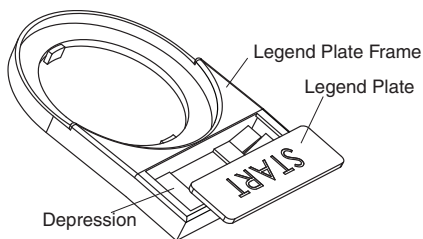
## Creating a Cable Hole

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

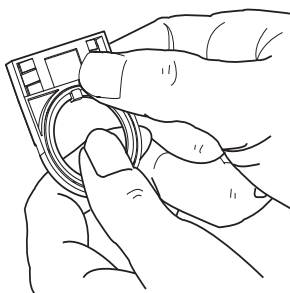


## Attaching and Removing Legend Plates

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

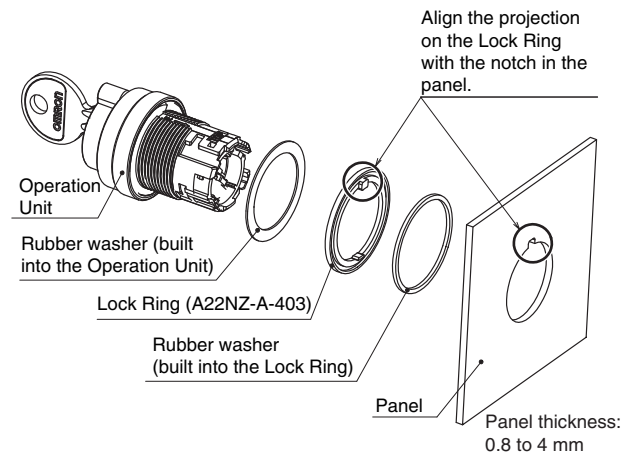


- You can easily remove the Legend Plate by pressing it forwards from the back of the Legend Plate Frame.
- The acrylic plastic Legend Plate is easily damaged by shock. Handle it with care.

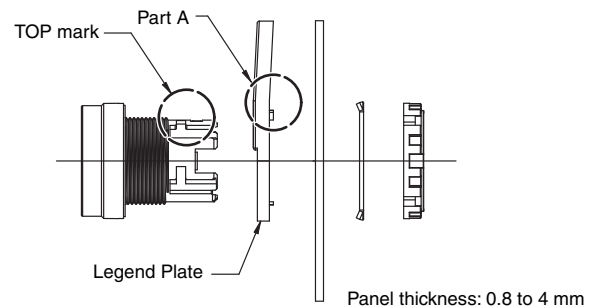


## Attaching the Lock Ring

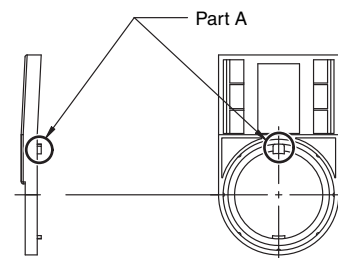
Attach the Lock Ring as shown in the following figure.  
To ensure water resistance, attach the rubber washer in the specified location.



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

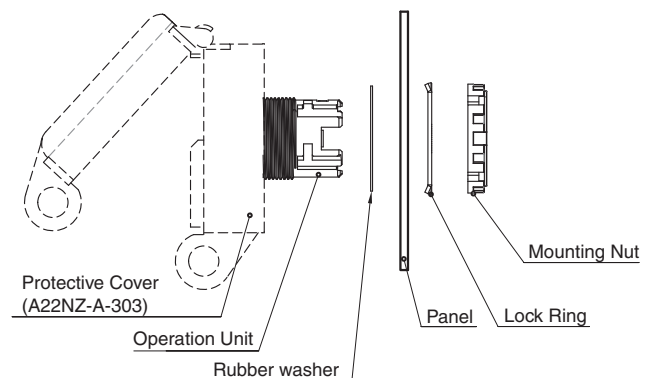


- If there is no notch in the panel, remove part A from the Legend Plate with pliers.



## Attaching the Protective Cover

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



This image shows a full page of white paper with horizontal grey ruling lines. The word "MEMO" is printed at the top center in bold black capital letters. The rest of the page is filled with evenly spaced horizontal lines for writing.

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