## OmROn

## Key-type Selector Switches A22NK

## Keyed 22-mm Selector Switches

## Universal Design.



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

## Easy to Use

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


## Safety

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


## Product Lineup

- Meet global safety standards.
- Available with metal or plastic bezels.
- All models are keyed alike.
- Standard-feature degree of protection: IP66 and NEMA 13.


## A22NK

## Model Number Structure

Model Number Legend $\qquad$ Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block. For information on combinations, refer to Ordering Information on pages 5 to 6 .

## Model Numbers for Sets


(1) Type

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

(2) Number of Positions and Bezel Material

| Code | No. of <br> positions | Bezel material |
| :---: | :---: | :---: |
| 2 B | 2 | Plastic |
| 2 M | 2 | Brushed metal |
| 2 R | 2 | Metal |
| 3 B | 3 | Plastic |
| 3 M | 3 | Brushed metal |
| 3 R | 3 | Metal |

(3) Reset Method

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

## Operation Angle


(7) Contact Specification

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

(8) Contact Configuration

| Code | Contact <br> Blocks |  | Switch <br> Position |  | Two <br> posi- <br> tions | Three <br> posi- <br> tions |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NO | NC | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | Yes | --- |
| 100 | 1 | 0 | NO | --- | --- | Yes |  |
| 002 | 0 | 1 | --- | --- | NC | Yes | --- |
| 101 | 2 | 0 | NO | --- | NO | Yes | Yes |
| 102 | 1 | 1 | NO | --- | NC | Yes | Yes |
| 201 | 1 | 1 | NC | --- | NO | --- | Yes |
| 202 | 0 | 2 | NC | --- | NC | Yes | Yes |
| 110 | 2 | 0 | NO | NO | --- | --- | Yes |
| 112 | 2 | 1 | NO | NO | NC | Yes | Yes |
| 210 | 1 | 1 | NC | NO | --- | --- | Yes |
| 011 | 2 | 0 | --- | NO | NO | --- | Yes |
| 012 | 1 | 1 | --- | NO | NC | --- | Yes |
| 120 | 1 | 1 | NO | NC | --- | --- | Yes |
| 220 | 0 | 2 | NC | NC | --- | --- | Yes |
| 021 | 1 | 1 | --- | NC | NO | --- | Yes |
| 022 | 0 | 2 | --- | NC | NC | --- | Yes |
|  |  |  |  |  |  |  |  |

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


Note: Not all assembled configurations are possible.
Please refer to the subassemblies section for additional options. Please refer to the specifications section for examples of linked contact block options.

Structure

## Contact Configuration Table <br> Two Positions

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

Operation Angle


Note: Not all assembled configurations are possible.
Please refer to the subassemblies section for additional options. Please refer to the specifications section for examples of linked contact block options.

## Three Positions

| No. of outputs | Code | Contact configuration | Unit position | Contacts | Position |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1 | 0 | 2 |
| 2 | 110 | DPST-NO | (1) | NO | ON |  |  |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | --- | --- | --- | --- |
| 2 | 011 | DPST-NO | (1) | --- | --- | --- | --- |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | NO |  |  | ON |
| 2 | 101 | DPST-NO | (1) | NO | ON |  |  |
|  |  |  | (2) | --- | --- | - | --- |
|  |  |  | (3) | NO |  |  | ON |
| 2 | 220 | DPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | --- | --- | --- | --- |
| 2 | 022 | DPST-NC | (1) | --- | - | --- | --- |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | NC | ON | ON |  |
| 2 | 202 | DPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | --- | --- | --- | --- |
|  |  |  | (3) | NC | ON | ON |  |
| 2 | 120 | SPST-NO/ SPST-NC | (1) | NO | ON |  |  |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | --- | --- | --- | --- |


| No. of outputs | Code | Contact configuration | $\begin{aligned} & \text { Unit } \\ & \text { position } \end{aligned}$ | Contacts | Position |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1 | 0 | 2 |
| 2 | 102 | SPST-NO/SPST-NC SPST-NC | (1) | NO | ON |  |  |
|  |  |  | (2) | --- | --- | --- | --- |
|  |  |  | (3) | NC | ON | ON |  |
| 2 | 210 | SPST-NO/ SPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | --- | --- | --- | --- |
| 2 | 201 | SPST-NO/ SPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | --- | --- | --- | --- |
|  |  |  | (3) | NO |  |  | ON |
| 2 | 012 | SPST-NO/ SPST-NC | (1) | --- | --- | --- | --- |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | NC | ON | ON |  |
| 2 | 021 | SPST-NO/ SPST-NC | (1) | --- | --- | --- | --- |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | NO |  |  | ON |
| 3 | 111 | 3PST-NO | (1) | NO | ON |  |  |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | NO |  |  | ON |
| 3 | 222 | 3PST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | NC | ON | ON |  |
| 3 | 122 | SPST-NO/ DPST-NC | (1) | NO | ON |  |  |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | NC | ON | ON |  |
| 3 | 212 | SPST-NO/ DPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | NC | ON | ON |  |
| 3 | 221 | SPST-NO/ DPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | NO | ON |  | ON |
| 3 | 211 | DPST-NO SPST-NC | (1) | NC |  | ON | ON |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | NO |  |  | ON |
| 3 | 121 | DPST-NO/ SPST-NC | (1) | NO | ON |  |  |
|  |  |  | (2) | NC |  | ON |  |
|  |  |  | (3) | NO |  |  | ON |
| 3 | 112 | DPST-NO/ SPST-NC | (1) | NO | ON |  |  |
|  |  |  | (2) | NO | ON |  | ON |
|  |  |  | (3) | NC | ON | ON |  |

## Operation Angle



Note: Some combinations are only available through subassemblies.
Please refer to the specifications section for more information.

## Ordering Information

Model Numbers for Sets - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.
Two-position, Key-type Selector Switches

| Appearance | Bezel material | No. of outputs | Model | (3) <br> Reset method | (5) <br> Key release positions | (8)(8)(8) Contact configuration |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Plastic bezels | 2B | 1 |  | M: Manual <br> L: Automatic reset on left | A: All positions <br> B: Left | $\begin{aligned} & 100 \\ & 002 \end{aligned}$ |
|  |  | 2 | A22NK-2B(3)-01(5)A-G(8)(8)(8) |  |  | $\begin{aligned} & 102 \\ & 101 \\ & 202 \end{aligned}$ |
| Brushed metal bezels |  | 1 |  |  |  | $\begin{aligned} & 100 \\ & 002 \end{aligned}$ |
| $\omega$ | 2M | 2 | A22NK-2M(3)-01(5)A-G(8)(8)(8) |  |  | $\begin{aligned} & \hline 102 \\ & 101 \\ & 202 \end{aligned}$ |
| Metal bezels |  | 1 |  |  |  | $\begin{aligned} & 100 \\ & 002 \end{aligned}$ |
|  | 2R | 2 | A22NK-2R(3)-01(5)A-G(8)(8)(8) |  |  | $\begin{aligned} & 102 \\ & 101 \\ & 202 \end{aligned}$ |

## Three-position, Key-type Selector Switches



Note: Not all assembled configurations are possible.
Please refer to the subassemblies section for additional options.
Please refer to the specifications section for examples of linked contact block options.

## Ordering Information

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


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

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## A22NK

## Ordering Information

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

## Operation Units

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

## Ordering Information

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

Mounting Collar

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

## Contact Blocks

| Appearance | Contact <br> Specification | Model |
| :---: | :---: | :---: |
|  | SPST-NO (blue) | A22NZ-S-G1A |
|  | SPST-NC (orange) | A22NZ-S-G1B |

## Reinforcement Plate

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

Accessories

| Appearance | Model |
| :---: | :---: | :---: |
| Key |  |

## A22NK

## Specifications

## Characteristics

| Item Type |  | Key-type Selector Switches |
| :---: | :---: | :---: |
| Allowable operating frequency | Mechanical | 30 operations/minute max. |
|  | Electrical | 30 operations/minute max. |
| Insulation resistance |  | $100 \mathrm{M} \Omega \mathrm{min}$. (at 500 VDC ) |
| Contact resistance |  | $100 \mathrm{~m} \Omega \mathrm{max}$. (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 $55 \mathrm{~Hz}, 1.5-\mathrm{mm}$ double amplitude (malfunction within 1 ms ) |
| Shock resistance | Malfunction | $1,000 \mathrm{~m} / \mathrm{s}^{2} \mathrm{max}$. (malfunction within 1 ms ) |
| Durability | Mechanical | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.) |
|  | Electrical | 500,000 operations min. (Switches with 3 positions: 300,000 operations min.) |
| Ambient operating temperature*1 |  | -25 to $70^{\circ} \mathrm{C}$ |
| Ambient operating humidity |  | 35\% to 85\% RH |
| Ambient storage temperature*1 |  | -40 to $80^{\circ} \mathrm{C}$ |
| Degree of protection ${ }^{*}$ |  | IP66, NEMA13 |
| Electric shock protection class |  | Class II |
| PTI (tracking characteristic) |  | 175 |
| Degree of contamination (application environment) |  | 3 (IEC 60947-5-1) |
| Weight |  | Approx. 65 g (for 1NC/1NO) |

*1. With no icing or condensation.
*2. Degree of protection from the front of the panel.
Operating Characteristics (for SPST-NO/SPST-NC)

| Item Type | Key-type Selector Switches |  |
| :---: | :---: | :---: |
|  | Manual reset | Automatic reset |
| Total travel force (torque) (maximum TTF) | 0.6 N•m | 0.6 N•m |
| Total travel (TT) | 2 positions: Approx. $90^{\circ}$, 3 pos |  |
| Resetting force (torque) (RF) | 0.5 N.m max. | --- |

## Examples of Linked Contact Blocks



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.

Lighted and Non-lighted Key-type Selection Switches

## Two-position Switches with Plastic Bezels



Three-position Switches with Plastic Bezels A22NK-3B $\square$


Two-position Switches with Brushed Metal Bezels Three-position Switches with Brushed Metal Bezels A22NK-2M $\square$


Depth with Linked Units


Terminal Wiring Diagrams Bottom View


2NO/1NC Contact configuration code:112

Bottom View


## A22NK

## Safety Precautions

Refer to Safety Precautions for All Pushbutton Switches/Indicators for common precautions.
Read the Safety Precautions in the A22NN/A22NL datasheet.
Precautions for Correct Use
Insert the key all of the way to the back of the cylinder before you turn it.

## 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 ( $\mathrm{H}_{2} \mathrm{~S}, \mathrm{SO}_{2}$ ), ammonia gas $\left(\mathrm{NH}_{3}\right)$, nitric acid gas $\left(\mathrm{HNO}_{3}\right)$, chlorine gas $\left(\mathrm{Cl}_{2}\right)$, 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 $2.0 \mathrm{~N} \cdot \mathrm{~m}$.)


## Wiring

- Terminal screws must be M3.5 Phillips or slotted screws with a square washer.
- The terminal screw tightening torque is 1.0 to $1.3 \mathrm{~N} \cdot \mathrm{~m}$.
- 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 Sheathes


- 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



## A22NK

## Application

## Mounting to the Panel <br> 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 <br> linked Con- <br> tact Blocks | Number of <br> wires per ter- <br> minal | Minimum al- <br> lowable pitch <br> Dimension A <br> (mm) or larger |
| :--- | :---: | :---: | :---: |
| Leads (twisted wires <br> or solid wire) | 1 | 1 | 50 |
| Bare crimp terminals | 1 | 1 | 50 |
| Crimp terminals with <br> 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 $25.5-\mathrm{mm}$ 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 |$\quad$ Flat Switches

## Attaching Character Films

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


## Projected Switches

Full-guard Switches


Mushroom Switches


Flat Switches


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

| Projected, <br> Full-guard, or <br> Mushroom <br> Switches |
| :--- | :--- | :--- |
| Plate di- |
| mensions |

## 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 $1.0 \mathrm{~N} \cdot \mathrm{~m}$ so that it will not become loose.


(1) $\downarrow$

(2)

(2)

## 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 indicted 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 $2.0 \mathrm{~N} \cdot \mathrm{~m}$.


## Creating a Cable Hole

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


## Attaching and Removing Legend Plates

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

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



## Attaching the Lock Ring

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


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

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



## Attaching the Protective Cover

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


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[^0]:    Model numbers of sets: Refer to page 5.

