

# Indicators M22N

## 22-mm dia. Indicators

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

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

### Easy to Use

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

### Miniaturization

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

### Product Lineup

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



Refer to *Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions* on page 88.



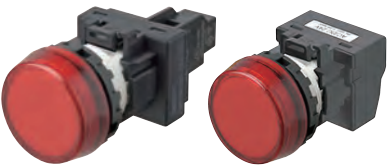
## Indicator Unit Colors

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

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

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List of Models

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

## Model Number Structure

### Model Number Legend

--Shipped as a set that includes the Indicator Unit, LED Lamp, and Socket Unit.  
For information on combinations, refer to *Ordering Information* on page 50.

#### Model Numbers for Sets

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

#### (1) Indicator Unit Shape

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

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

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

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

#### (3) Degree of Protection

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

#### (5) LED Lamp Voltage

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

#### (6) Terminals Specifications

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

■ Specifications: Refer to page 51.  
■ Accessories and tools: Refer to pages 84 to 85.

■ Dimensions: Refer to page 52.  
■ Precautions for correct use: Refer to pages 88 to 99.

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

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Ordering Information

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

Indicators

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

**Note:** Normally, the Indicator Unit and LED Lamp with the same color are combined.  
However, opaque white is available by combining a white Indicator Unit and yellow LED. M22N-B□-TWA-Y□-□

■ Specifications: Refer to page 51.

■ Accessories and tools: Refer to pages 84 to 85.

■ Dimensions: Refer to page 52.

■ Precautions for correct use: Refer to pages 88 to 99.

## Ratings and Specifications

### Certified Standard Ratings

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

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

**TÜV (EN60947-5-1)**

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

**CCC (GB14048.5)**

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

### Application Standards

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

### Ratings

#### LED Lamps

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

### Characteristics

| Item                                              |                                    | Type                                             | Indicator |
|---------------------------------------------------|------------------------------------|--------------------------------------------------|-----------|
| Allowable operating frequency                     | Mechanical                         | ---                                              |           |
|                                                   | Electrical                         | ---                                              |           |
| Insulation resistance                             |                                    | ---                                              |           |
| Contact resistance                                |                                    | ---                                              |           |
| Dielectric strength                               | Between terminals of same polarity | ---                                              |           |
|                                                   | Between each terminal and ground   | 2,500 VAC at 50/60 Hz for 1 min. (initial value) |           |
| Vibration resistance                              | Malfunction                        | 10 to 55 Hz, 1.5-mm double amplitude             |           |
| Shock resistance                                  | Malfunction                        | 1,000 m/s <sup>2</sup> max.                      |           |
| Durability                                        | Mechanical                         | ---                                              |           |
|                                                   | Electrical                         | ---                                              |           |
| Ambient operating temperature <sup>*1</sup>       |                                    | -25 to 55°C                                      |           |
| Ambient operating humidity                        |                                    | 35% to 85% RH                                    |           |
| Ambient storage temperature <sup>*1</sup>         |                                    | -40 to 80°C                                      |           |
| Degree of protection <sup>*2</sup>                |                                    | Conforming to IP66, NEMA 4X, NEMA13              |           |
| Electric shock protection class                   |                                    | Class II                                         |           |
| PTI (tracking characteristic)                     |                                    | 175                                              |           |
| Degree of contamination (application environment) |                                    | 3 (EN 60947-5-1)                                 |           |
| Weight                                            |                                    | Approx. 30 g                                     |           |

\*1. With no icing or condensation.

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

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Dimensions

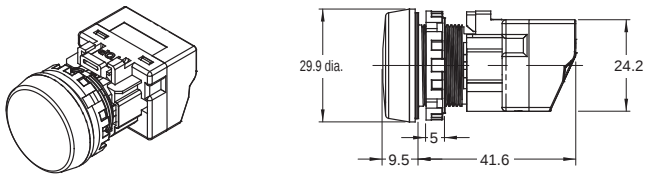
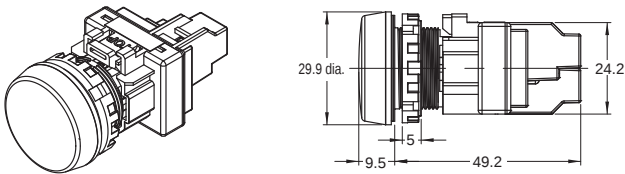
(Unit: mm)

Indicators

Plastic Flat Indicators

M22N-BN-□□A-□□

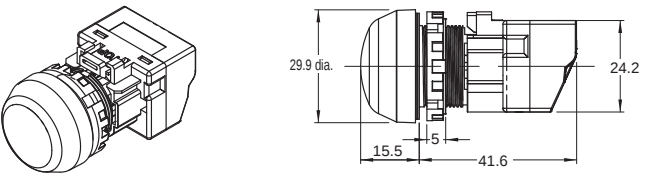
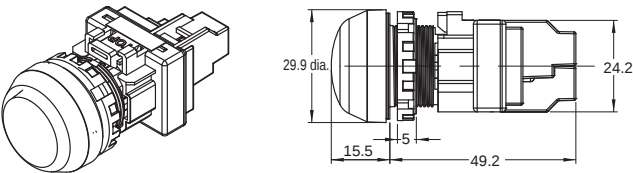
M22N-BN-□□A-□□-P



Plastic Semi-spherical Indicators

M22N-BG-□□A-□□

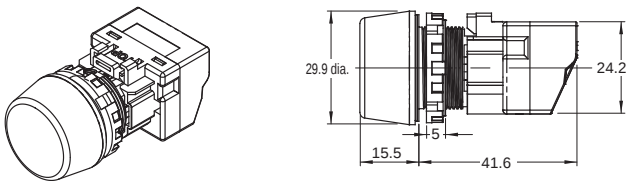
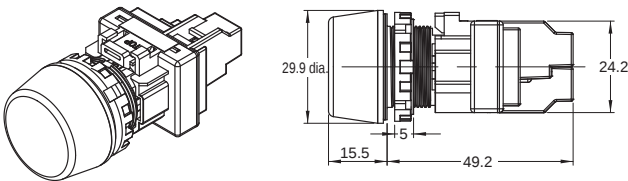
M22N-BG-□□A-□□-P



Plastic Projected Indicators

M22N-BP-□□A-□□

M22N-BP-□□A-□□-P



Plastic Flat Etched Indicators

M22N-BC-□□A-□□

M22N-BC-□□A-□□-P

