Built-in Power Supply Photoelectric Sensor

# E3JM/E3JK

CSM_E3JM_E3JK_DS_E_10_1

## Two Models Contribute to Overall Cost Reduction

**E3JM Terminal Block Models**

- Easy to wire and adjust.

**E3JK Pre-wired Models**

- Slim body is economically priced and full of functions.

⚠ Be sure to read *Safety Precautions* on page 10.

CE

## Ordering Information

### Sensors (Refer to *Dimensions* on page 12.)

**E3JM**

Red light / Infrared light

| Sensing method | Appearance | Connection method | Sensing distance | Operation mode | Output configuration | Functions | Model |
|---|---|---|---|---|---|---|---|
| Through-beam (Emitter + Receiver) * | | Terminal block | 10 m | Light-ON Dark-ON (switch selectable) | Relay | --- | E3JM-10M4-N |
| | | | | | | Timer | E3JM-10M4T-N |
| | | | | | DC SSR | --- | E3JM-10S4-N |
| | | | | | | Timer | E3JM-10S4T-N |
| Retro-reflective with MSR function | E39-R1 (provided) | | 4 m | | Relay | --- | E3JM-R4M4 |
| | | | | | | Timer | E3JM-R4M4T |
| | | | | | DC SSR | --- | E3JM-R4S4 |
| | | | | | | Timer | E3JM-R4S4T |
| Diffuse-reflective | | | 700 mm | | Relay | --- | E3JM-DS70M4 |
| | | | | | | Timer | E3JM-DS70M4T |
| | | | | | DC SSR | --- | E3JM-DS70S4 |
| | | | | | | Timer | E3JM-DS70S4T |

* Through-beam Sensors are sold in sets that include both the Emitter and Receiver.

### E3JK

| Sensing method | Appearance | Connection method | Sensing distance | Operation mode | Output configuration | Model |
|---|---|---|---|---|---|---|
| Through-beam (Emitter + Receiver) *1 | | Pre-wired (2 m) | 5 m | Light-ON | Relay | **E3JK-5M1-N 2M** |
| | | | | Dark-ON | | **E3JK-5M2-N 2M** |
| | | | | Light-ON / Dark-ON Both selectable | DC SSR | **E3JK-5S3-N 2M** |
| Retro-reflective with MSR function | E39-R1 (provided) | | *2 2.5 m (3 m) | Light-ON | Relay | **E3JK-R2M1 2M** |
| | | | | Dark-ON | | **E3JK-R2M2 2M** |
| | | | | Light-ON / Dark-ON Both selectable | DC SSR | **E3JK-R2S3 2M** |
| Retro-reflective without MSR function | | | *2 4 m (5 m) | Light-ON | Relay | **E3JK-R4M1 2M** |
| | | | | Dark-ON | | **E3JK-R4M2 2M** |
| | | | | Light-ON / Dark-ON Both selectable | DC SSR | **E3JK-R4S3 2M** |
| Diffuse-reflective | | | 300 mm | Light-ON | Relay | **E3JK-DS30M1 2M** |
| | | | | Dark-ON | | **E3JK-DS30M2 2M** |
| | | | | Light-ON / Dark-ON Both selectable | DC SSR | **E3JK-DS30S3 2M** |

Note: UL-listed models have the -US suffix. Through-beam models have -US suffix instead of -N suffix. (Example: E3JM-10M4-US 2M). Tightening nuts, washers, and rubber bushings are not provided with these models.
Change: Shape of the E3JM conduit socket
Note, however, that DC-type E3JK SSR Output Models are not UL-listed.
*1. Through-beam Sensors are sold in sets that include both the Emitter and Receiver.
*2. Values in parentheses indicate the sensing distance when using E39-R2 Reflectors.

## Accessories (Order Separately)

### Slit (A Slit is not provided with the Sensor for through-beam. Order a Slit separately if required.) (Refer to *Dimensions* on page 12.)

| Slit width | Sensing distance | | Minimum detectable object (typical) | Model | Quantity | Remarks |
|---|---|---|---|---|---|---|
| 1 mm × 20 mm | E3JM-10□4(T)-N | 1.2 m | 1-mm dia. | **E39-S39** | 1 Slit each for the Emitter and Receiver (2 Slits total) | (Seal-type long slit) Can be used with the E3JM-10□4(T)-N and E3JK-5□□-N Through-beam Models. |
| | E3JK-5□□-N | 0.7 m | | | | |

### Reflectors (A Reflector is required for Retroreflective Sensors.)

**A Reflector is provided with the E39-R1 Sensor. For other Sensors, order a Reflector separately if required.** (Refer to *Dimensions* on *E39-L/F39-L/E39-S/E39-R*.)

| Name | Sensing distance (typical) | | Model | Quantity | Remarks |
|---|---|---|---|---|---|
| Reflectors | E3JM-R4□4(T) | 4 m (rated value) | **E39-R1** | 1 | Provided with the E3JM-R4□4(T) Provided with the E3JK-R2□□ Provided with the E3JK-R4□□ |
| | E3JK-R2□□ | 2.5 m (rated value) | | | |
| | E3JK-R4□□ | 4 m (rated value) | | | |
| | E3JK-R2□□ | 3 m | **E39-R2** | 1 | --- |
| | E3JK-R4□□ | 5 m | | | |
| Small Reflectors | E3JM-R4□4(T) | 3.5 m | **E39-R3** | 1 | --- |
| | E3JK-R2□□ | 1 m (5 mm) * | | | |
| Tape Reflectors | E3JM-R4□4(T) | 1 m (200 mm) * | **E39-RS1** | 1 | Enables MSR function. |
| | E3JK-R2□□ | 750 mm (200 mm) * | | | |
| | E3JM-R4□4(T) | 1.6 m (200 mm) * | **E39-RS2** | 1 | |
| | E3JK-R2□□ | 1.2 m (200 mm) * | | | |
| | E3JM-R4□4(T) | 2 m (200 mm) * | **E39-RS3** | 1 | |
| | E3JK-R2□□ | 1.5 m (200 mm) * | | | |

Note: 1. When using any reflector other than the provided one, use a sensing distance of approximately 0.7 times the typical value as a guide.
2. Refer to *Reflectors* on *E39-L/F39-L/E39-S/E39-R* for details.
* Values in parentheses are the minimum required distance between the Sensor and Reflector.

## Mounting Bracket

**Some Mounting Brackets are provided with the Sensor. Order other Mounting Brackets separately if required.** **(Refer to E39-L/F39-L/E39-S/E39-R)**

| Appearance | Model | Quantity | Remarks |
|---|---|---|---|
|  | **E39-L53** | 1 | Provided with the E3JM. |
|  | **E39-L40** | 1 | Provided with the E3JK. |
|  | **E39-L51** | 1 | Mounting Bracket designed for changing from he E3A-M, E3A2, E3A3, OA-5, or OA-5N to the E3JM. |

Note: 1. When using a Through-beam Sensor, order one Connector for the Receiver and one for the Emitter.
2. Refer to *Mounting Brackets* on *E39-L/F39-L/E39-S/E39-R* for details.

## Ratings and Specifications

### E3JM

| Item / Sensing method | | Through-beam model | Retro-reflective model (with MSR function) | Diffuse-reflective model |
|---|---|---|---|---|
| Model | | E3JM-10□4(T)-N | E3JM-R4□4(T) | E3JM-DS70□4(T) |
| Sensing distance | | 10 m | 4 m (When using E39-R1) | White paper (200 × 200 mm): 700 mm |
| Standard sensing object | | Opaque: 14.8-mm dia. min. | Opaque: 75-mm dia. min. | --- |
| Differential travel | | --- | | 20% max. of sensing distance |
| Directional angle | | Both Emitter and Receiver 3° to 20° | 1° to 5° | --- |
| Light source (wavelength) | | Infrared LED (950 nm) | Red LED (660 nm) | Infrared LED (950 nm) |
| Power supply voltage | | 12 to 240 VDC±10%, ripple (p-p): 10% max.<br>24 to 240 VAC±10%, 50/60 Hz | | |
| Power consumption | DC | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) | 2 W max. | |
| | AC | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) | 2 W max. | |
| Control output | | Relay output (E3JM-□□M4 (T) model): SPDT, 250 VAC, 3A (cosϕ=1) max., 5 VDC, 10 mA min.<br>DC SSR output (E3JM-□□S4 (T) model): 48 VDC, 100 mA max. (residual voltage: 2 V max.)<br>Light-ON/Dark-ON selectable | | |
| Life expectancy (relay output) | Mechanical | 50,000,000 times min. (switching frequency: 18,000 times/h) | | |
| | Electrical | 100,000 times min. (switching frequency: 1,800 times/h) | | |
| Response time | Relay output | (E3JM-□□M4 (T) models) Operate or reset: 30 ms max. | | |
| | DC SSR output | (E3JM-□□S4 (T) models) Operate or reset: 5 ms max. | | |
| Sensitivity adjustment | | --- | | One-turn adjuster |
| Timer function * | | ON-delay/OFF-delay/One-shot delay switch selectable<br>Delay time: 0.1 to 5 s (adjustable), only for E3JM-□□□4T | | |
| Ambient illumination (Receiver side) | | Incandescent lamp: 3,000 lx max. | | |
| Ambient temperature range | | Operating: –25°C to 55°C, Storage: –30°C to 70°C (with no icing or condensation) | | |
| Ambient humidity range | | Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation) | | |
| Insulation resistance | | 20 MΩ min. at 500 VDC | | |
| Dielectric strength | | 2,000 VAC, 50/60 Hz for 1 min. | | |
| Vibration resistance | Destruction | 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions | | |
| | Malfunction | 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions | | |
| Shock resistance | Destruction | 500 m/s² 3 times each in X, Y, and Z directions | | |
| | Malfunction | 100 m/s² 3 times each in X, Y, and Z directions | | |
| Degree of protection | | IEC 60529: IP66 | | |
| Connection method | | Terminal block | | |
| Weight (packed state) | | Approx. 270 g | Approx. 160 g | |
| Material | Case | ABS (Acrylonitril Butadiene Styrene) | | |
| | Lens | Methacrylic resin | | |
| | Cover | Polycarbonate | | |
| | Mounting Bracket | Iron | | |
| Accessories | | Mounting Bracket (with screw), Nuts, Terminal Protection Cover, One set of cable connection nuts (excluding -US Models), Instruction manual, Reflector (E39-R1: only for Retro-reflective Sensors) | | |

* The timer cannot be disabled for models with timer functions (E3JM-□□□4T).

## E3JK

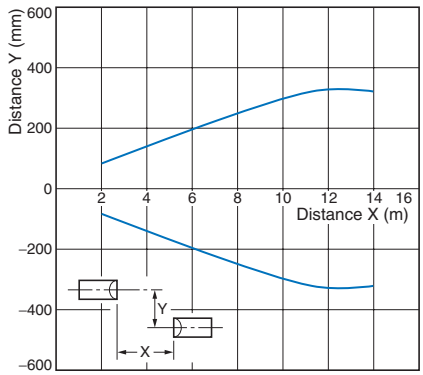
| Sensing method |  | Through-beam model |  | Retro-reflective model (with MSR function) |  | Retro-reflective model (without MSR function) |  | Diffuse-reflective model |  |
|---|---|---|---|---|---|---|---|---|---|
| Item | Model | E3JK -5M□-N | E3JK -5S3-N | E3JK -R2M□ | E3JK -R2S3 | E3JK -R4M□ | E3JK -R4S3 | E3JK -DS30M□ | E3JK -DS30S3 |
| Sensing distance |  | 5 m |  | 2.5 m (When using E39-R1) |  | 4 m (When using E39-R1) |  | White paper (100 × 100 mm): 300 mm |  |
| Standard sensing object |  | Opaque: 14.8-mm dia. min. |  | Opaque: 75-mm dia. min. |  |  |  | --- |  |
| Differential travel |  | --- |  |  |  |  |  | 20% max. of sensing distance |  |
| Directional angle |  | Both Emitter and Receiver 3° to 20° |  | 1° to 5° |  |  |  | --- |  |
| Light source (wavelength) |  | Infrared LED (950 nm) |  | Red LED (660 nm) |  |  |  | Infrared LED (950 nm) |  |
| Power supply voltage |  | 12 to 240 VDC±10%, ripple (p-p): 10% max.<br>24 to 240 VAC±10%, 50/60 Hz |  |  |  |  |  |  |  |
| Power consumption | DC | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) |  | 2 W max. |  |  |  |  |  |
|  | AC | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) |  | 2 W max. |  |  |  |  |  |
| Control output |  | Relay output SPDT, 250 VAC, 3 A max. (cosϕ= 1)<br>5 VDC, 10 mA min. | DC SSR output, Negative: common<br>48 VDC, 100 mA max.<br>Leakage current: 0.1 mA max.<br>With load short-circuit protection | Relay output SPDT, 250 VAC, 3 A max. (cosϕ= 1)<br>5 VDC, 10 mA min. | DC SSR output, Negative: common<br>48 VDC, 100 mA max.<br>Leakage current: 0.1 mA max.<br>With load short-circuit protection | Relay output SPDT, 250 VAC, 3 A max. (cosϕ= 1)<br>5 VDC, 10 mA min. | DC SSR output, Negative: common<br>48 VDC, 100 mA max.<br>Leakage current: 0.1 mA max.<br>With load short-circuit protection | Relay output SPDT, 250 VAC, 3 A max. (cosϕ= 1)<br>5 VDC, 10 mA min. | DC SSR output, Negative: common<br>48 VDC, 100 mA max.<br>Leakage current: 0.1 mA max.<br>With load short-circuit protection |
| Life expectancy (relay output) | Mechanical | 50,000,000 times min. (switching frequency: 18,000 times/h) |  |  |  |  |  |  |  |
|  | Electrical | 100,000 times min. (switching frequency: 1,800 times/h) |  |  |  |  |  |  |  |
| Response time |  | 30 ms max. | 10 ms max. | 30 ms max. | 5 ms max. | 30 ms max. | 5 ms max. | 30 ms max. | 5 ms max. |
| Sensitivity adjustment |  | --- |  |  |  |  |  | One-turn adjuster |  |
| Ambient illumination (Receiver side) |  | Incandescent lamp: 3,000 lx max. |  |  |  |  |  |  |  |
| Ambient temperature range |  | Operating: –25°C to 55°C, Storage: –30°C to 70°C (with no icing or condensation) |  |  |  |  |  |  |  |
| Ambient humidity range |  | Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation) |  |  |  |  |  |  |  |
| Insulation resistance |  | 20 MΩ min. at 500 VDC |  |  |  |  |  |  |  |
| Dielectric strength |  | 1,500 VAC, 50/60 Hz for 1 min. |  |  |  |  |  |  |  |
| Vibration resistance | Destruction | 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions |  |  |  |  |  |  |  |
|  | Malfunction | 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions |  |  |  |  |  |  |  |
| Shock resistance | Destruction | 500 m/s$^2$ 3 times each in X, Y, and Z directions |  |  |  |  |  |  |  |
|  | Malfunction | 100 m/s$^2$ 3 times each in X, Y, and Z directions | 500 m/s$^2$ 3 times each in X, Y, and Z directions | 100 m/s$^2$ 3 times each in X, Y, and Z directions | 500 m/s$^2$ 3 times each in X, Y, and Z directions | 100 m/s$^2$ 3 times each in X, Y, and Z directions | 500 m/s$^2$ 3 times each in X, Y, and Z directions | 100 m/s$^2$ 3 times each in X, Y, and Z directions | 500 m/s$^2$ 3 times each in X, Y, and Z directions |
| Degree of protection |  | IEC 60529 IP64 |  |  |  |  |  |  |  |
| Connection method |  | Pre-wired (standard length: 2 m) |  |  |  |  |  |  |  |
| Weight (packed state) |  | Approx. 420 g |  | Approx. 250 g |  |  |  |  |  |
| Material | Case | ABS (Acrylonitril Butadiene Styrene) |  |  |  |  |  |  |  |
|  | Lens | Methacrylic resin |  |  |  |  |  |  |  |
|  | Mounting Bracket | Iron |  |  |  |  |  |  |  |
| Accessories |  | Mounting Bracket (with screws), Nuts, Instruction manual, Reflector (Retro-reflective Models only) |  |  |  |  |  |  |  |

# Engineering Data (Typical)

## Parallel Operating Range

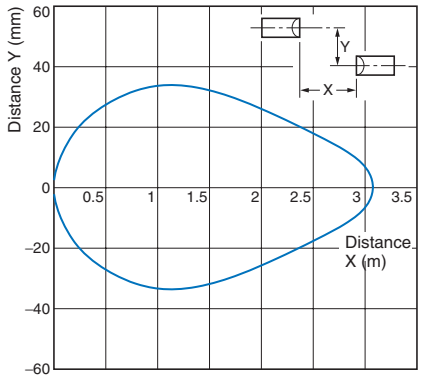
**Through-beam**

**E3JM-10□4(T)-N**



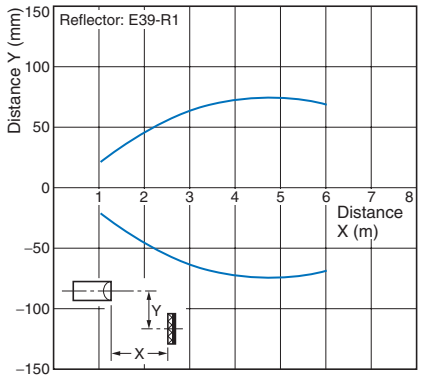

**Through-beam**

**E3JM-10□4(T)-N + E39-S39 (Optional Slit)**
**(A Slit is mounted to the Emitter and Receiver.)**




**Retro-reflective**

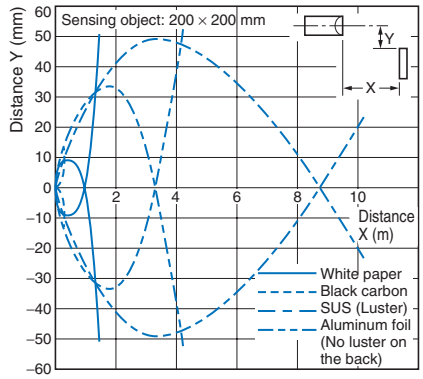
**E3JM-R4□4(T) + E39-R1**
**(Supplied Reflector)**




## Operating Range

**Diffuse-reflective**

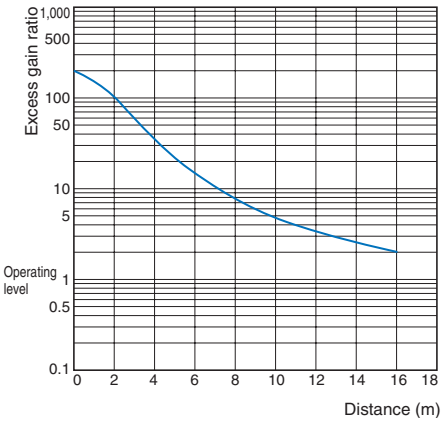
**E3JM-DS70□4(T)**




## Excess Gain Ratio vs. Set Distance

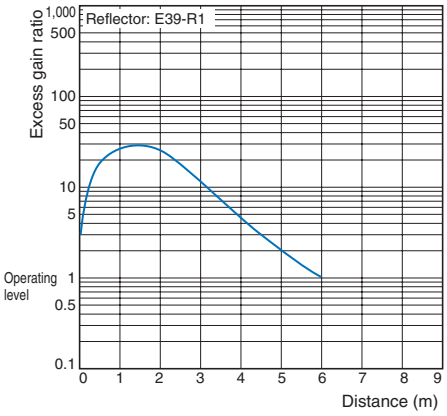
**Through-beam**

**E3JM-10□4(T)-N**

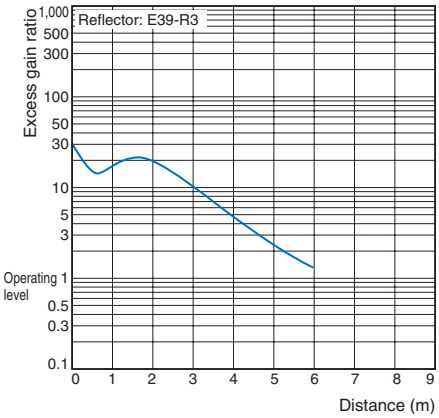



**Retro-reflective**

**E3JM-R4□4(T) + E39-R1**
**(Supplied Reflector)**

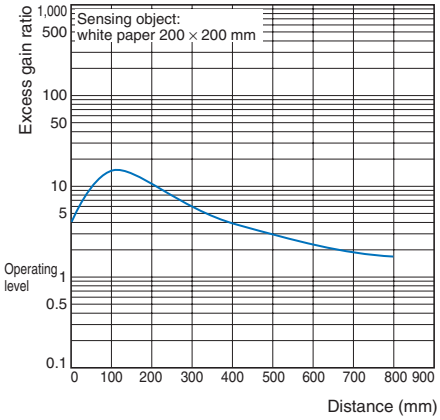



**E3JM-R4□4(T) + E39-R3**
**(Optional Reflector)**



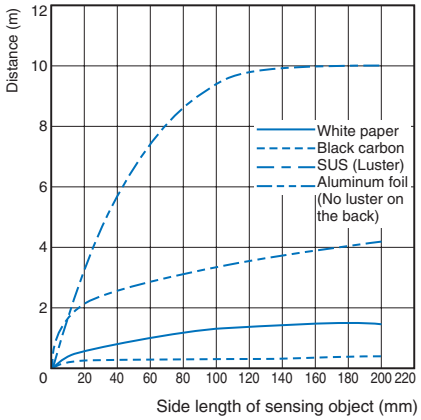
### Diffuse-reflective

**E3JM-DS70□4(T)**




## Sensing Object Size vs. Sensing Distance

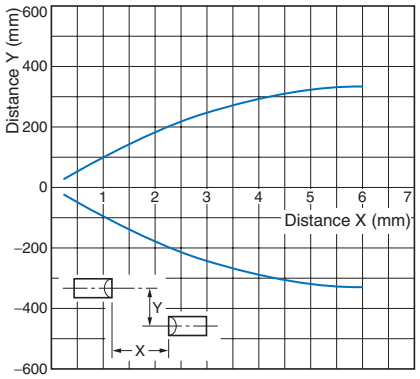
**E3JM-DS70□4(T)**



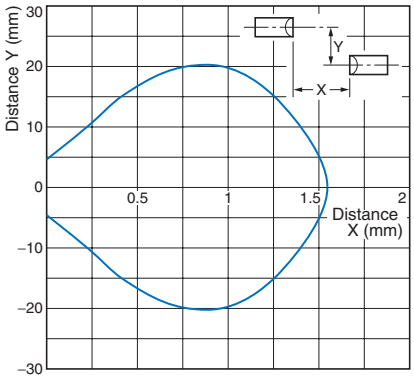

## Parallel Operating Range

### Through-beam

**E3JK-5□□-N**

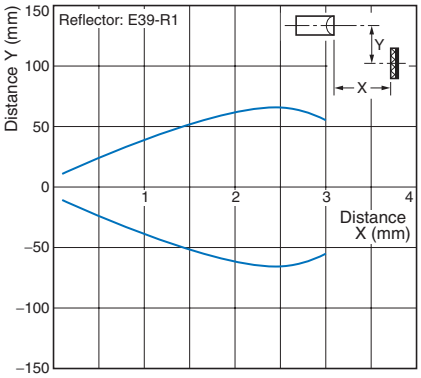



**E3JK-5□□-N + E39-S39 (Optional Slit)**
**(A Slit is mounted to the Emitter and Receiver.)**

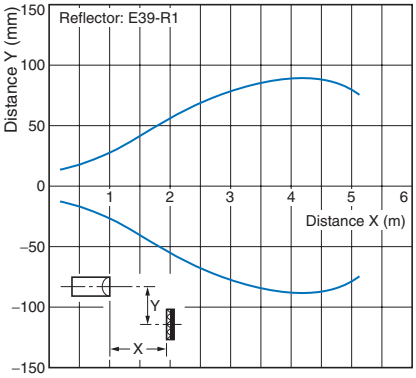



### Retro-reflective

**E3JK-R2□□ + E39-R1**
**(Supplied Reflector)**



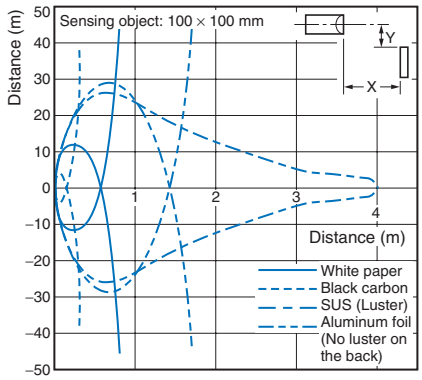

**E3JK-R4□□ + E39-R1**
**(Supplied Reflector)**



## Operating Range

### Diffuse-reflective

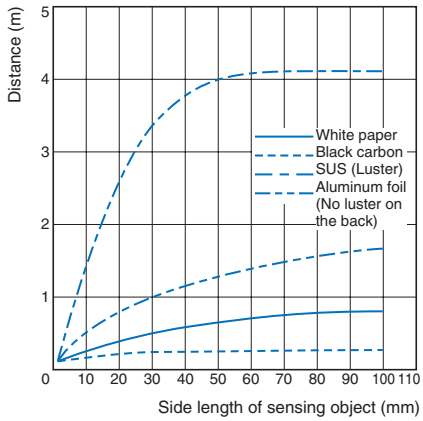
### E3JK-DS30□□




## Sensing Object Size vs. Sensing Distance

### Diffuse-reflective

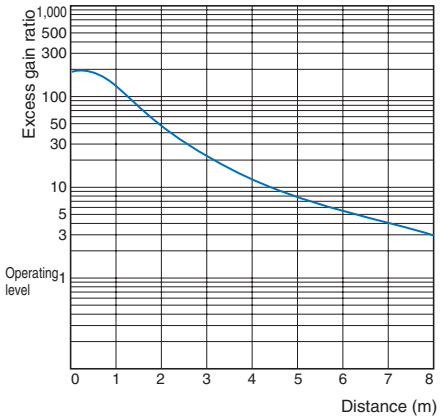
### E3JK-DS30□□




## Excess Gain Ratio vs. Set Distance

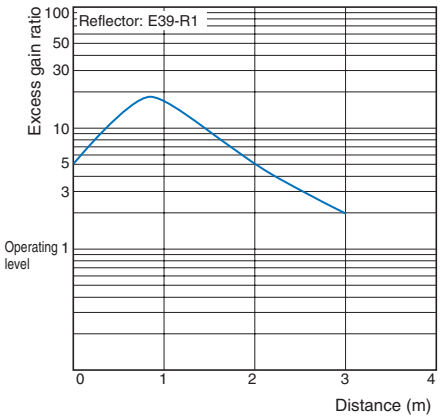
### Through-beam

### E3JK-5□□-N

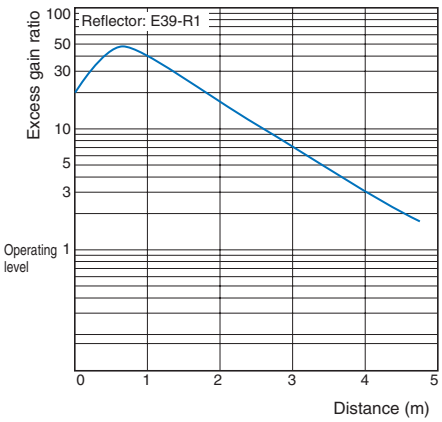



### Retro-reflective

### E3JK-R2□□ + E39-R1 (Supplied Reflector)

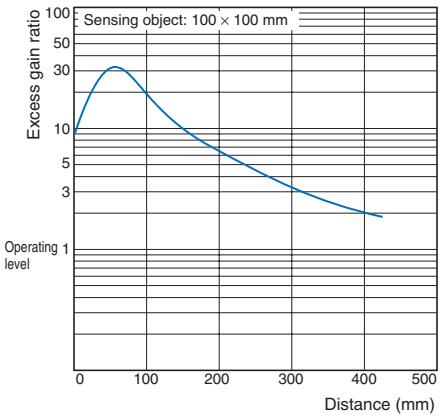



### E3JK-R4□□ + E39-R1 (Supplied Reflector)




### Diffuse-reflective

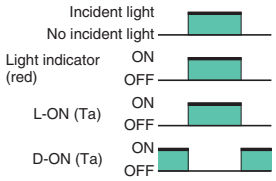
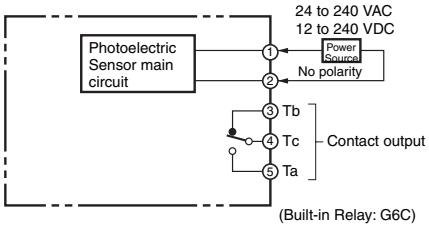
### E3JK-DS30□□



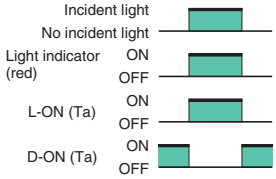
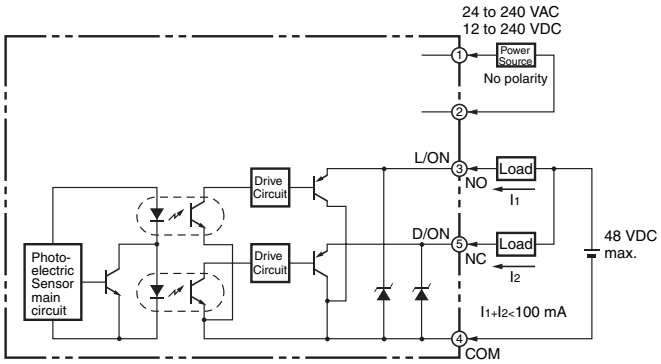
# I/O Circuit Diagrams

## E3JM

### Relay Output Models

| Model | Timing chart | Output circuit |
|---|---|---|
| E3JM-10M4(T)-N *<br>E3JM-R4M4(T)<br>E3JM-DS70M4(T) |  |  |

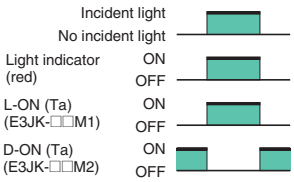
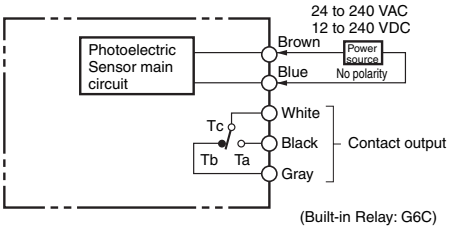
### DC SSR Output Models

| Model | Timing chart | Output circuit |
|---|---|---|
| E3JM-10S4(T)-N *<br>E3JM-R4S4(T)<br>E3JM-DS70S4(T) |  |  |

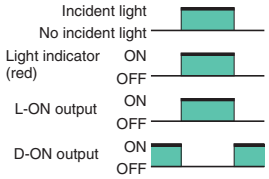
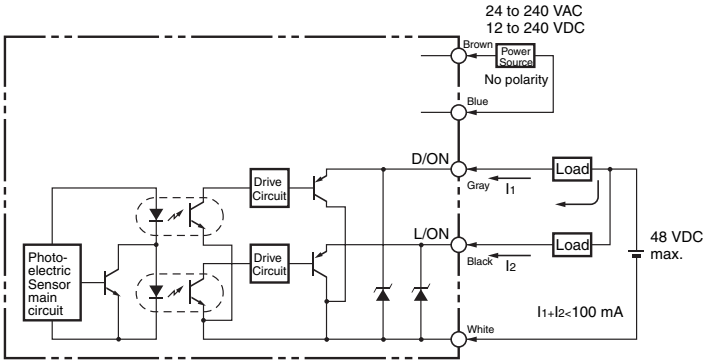
Note: Connect terminal 1 to any polarity and terminal 2 to the power supply because there is no polarity on the Emitter side.
* Models numbers for Through-beam Sensors (E3JM-10□4(T)-N) are for sets that include both the Emitter and Receiver.

## E3JK

### Relay Output Models

| Model | Timing chart | Output circuit |
|---|---|---|
| E3JK-5M1-N *<br>E3JK-5M2-N *<br>E3JK-R2M1<br>E3JK-R2M2<br>E3JK-R4M1<br>E3JK-R4M2<br>E3JK-DS30M1<br>E3JK-DS30M2 |  |  |

### DC SSR Output Models

| Model | Timing chart | Output circuit |
|---|---|---|
| E3JK-5S3-N *<br>E3JK-R2S3<br>E3JK-R4S3<br>E3JK-DS30S3 |  |  <br>Note: The output stage leakage currents are 0.1 mA max., respectively. |

Note: Connect the brown cable to any polarity and the blue cable to the power supply because there is no polarity on the Emitter side.
* Models numbers for Through-beam Sensors (E3JK-5□□-N 2M) are for sets that include both the Emitter and Receiver.

## Safety Precautions

### Refer to *Warranty and Limitations of Liability*.

**⚠ WARNING**

**This product is not designed or rated for ensuring safety of persons either directly or indirectly.**
**Do not use it for such purposes.**

**Precautions for Correct Use**

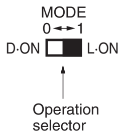
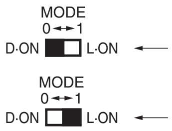
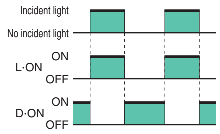
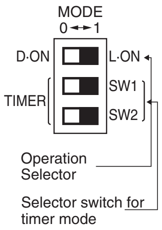
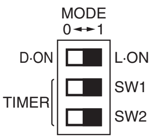
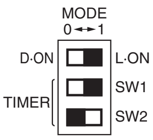
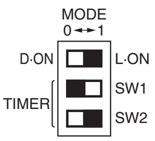
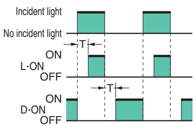
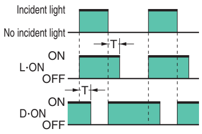
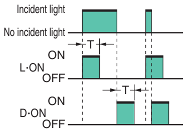
Do not use the product in atmospheres or environments that exceed product ratings.

**E3JM**

### ● Designing

### Operation

Note: ◨ The white part of the DIP switch indicates which setting is selected.

<table>
<tr><th></th><th>Switch configuration</th><th colspan="3">Switch selection</th><th colspan="3">Timing charts</th></tr>
<tr><td><b>Models without timer</b></td><td>  </td><td colspan="3">  Light-ON, Relay ON, DC output switching element ON<br>Dark-ON, Relay ON DC output switching element ON</td><td colspan="3">  </td></tr>
<tr><td rowspan="3"><b>Models with timer</b></td><td rowspan="3">  </td><td>ON-delay</td><td>OFF-delay</td><td>One-shot delay</td><td>ON-delay</td><td>OFF-delay</td><td>One-shot delay</td></tr>
<tr><td>  Both SW1 and SW2 at "0."</td><td>  Only SW2 at "1."</td><td>  Only SW1 at "1," which overrides either setting of SW2.</td><td rowspan="2">  </td><td rowspan="2">  </td><td rowspan="2">  </td></tr>
<tr><td colspan="3">Note: The operation selector is the same as for models without a timer.</td></tr>
</table>

### Output Relay Contact

If E3JM/E3JK is connected to a load with contacts that spark when the load is turned OFF (e.g., a contactor or valve), the normally-closed side may be turned ON before the normally-open side is turned OFF or vice-versa. If both normally-open output and normally-closed output are used simultaneously, apply an surge suppressor to the load.
Refer to *OMRON's PCB Relays Catalog* (X33) for typical examples of surge suppressors.

## ● Wiring

### Connecting and Wiring

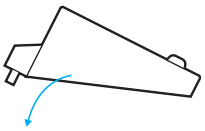
- We recommend connecting a cable with a conductor cross-section of 0.3 $mm^2$ and an outer diameter of 6 to 8 mm.
- Be sure to firmly tighten the cover in order to maintain waterproof and dustproof properties. The screw size of the conduit sockets is shown in the following table.

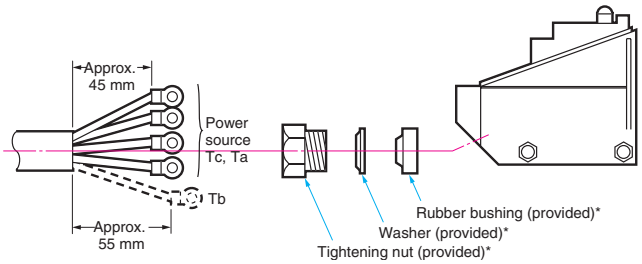
| Model | Conduit socket thread size |
|---|---|
| E3JM-□ | PF1/2 |

### Cable End Treatment

Adjust the four wires to the same length when the Ta output is to be used only. If both the Ta and Tb outputs are to be used, treat them as shown in the following diagram.

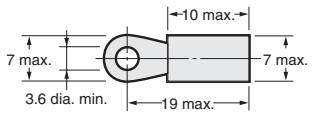
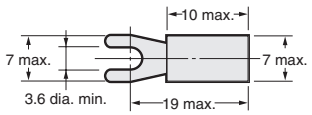
**Recommended example**






* These parts are not provided with models with a -US suffix.

### Recommended Crimp Terminal Dimensions (Unit: mm)

| Round type | Fork type |
|---|---|
|  |  |
| (After crimping) | (After crimping) |

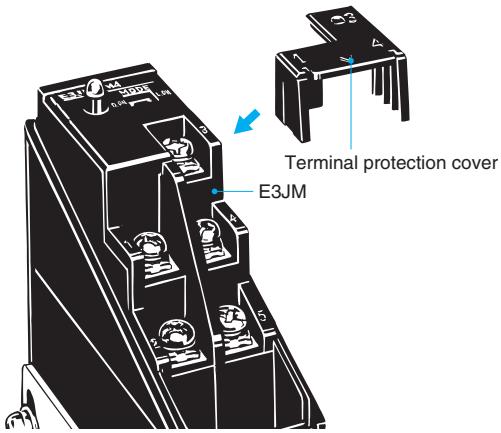


Note: Use terminals with insulation tube (recommended crimp terminal: 1.25 to 3.5).

## ● Others

### Terminal Protection Cover (Provided)

The terminal protection cover is designed to improve safety by maintaining the sensitivity properties of the product and by preventing any contact with charged sections while it is being operated with the mode set to the timer mode. Mount the product as shown in the following diagram (mount the Through-beam Model on the Receiver side).




**E3JK**

## ● Designing

### Power Reset Time

The Sensor is ready to detect within 200 ms after it is turned ON. If the Sensor and load are connected to separate power supplies, be sure to turn ON the Sensor first.

**Items Common to E3JM and E3JK**

## ● Wiring

### Connecting and Wiring DC SSR Output Models

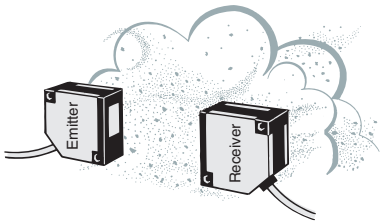
When using the DC SSR output model, the total of the load current for the Light-ON output (NO) and that for the Dark-ON (NC) should be 100 mA max. If the total exceeds 100 mA, the load short-circuit protection function will be activated (this function will be reset when the power of the Photoelectric Sensor is turned OFF).

## ● Others

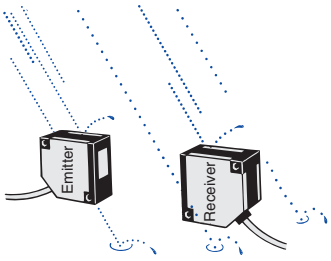
### Ambient Conditions (Installation Area)

The E3JM will malfunction if installed in the following places.

- Places where the E3JM is exposed to a dusty environment.
- Places where corrosive gases are produced.




- Places where the E3JM is directly exposed to water, oil, or chemicals.

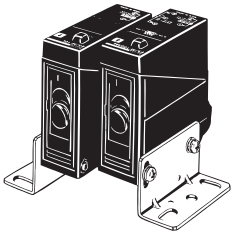


# Dimensions

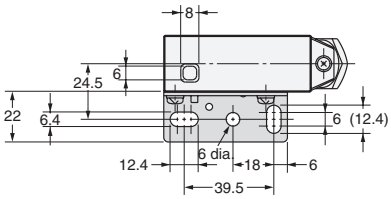
(Unit: mm)
Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

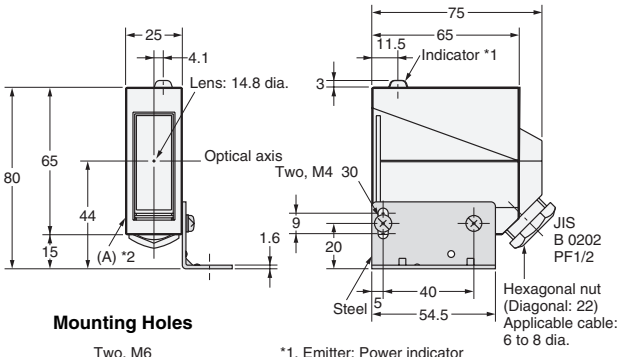
## Sensors

### E3JM-10□4(T)-N *1

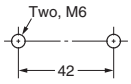


**With Mounting Bracket Attached**



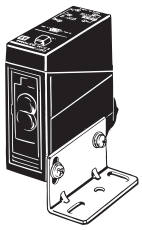

**Mounting Holes**



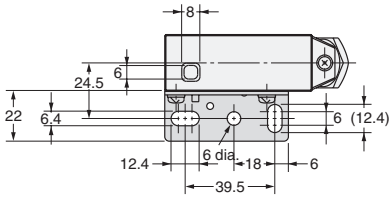

*1. Emitter: Power indicator
Receiver: Light indicator (without timer function)
Operation indicator (with timer function)
*2. Mounting Brackets can be used on the A side.

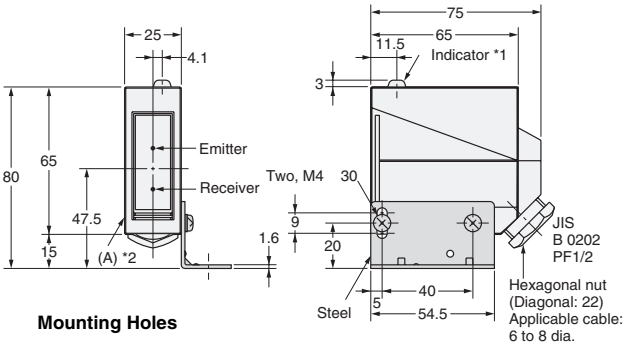
Note: The operating mode switch and timer mode switch are located inside the cover.

### E3JM-R4□4(T)
### E3JM-DS70□4(T)

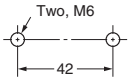


**With Mounting Bracket Attached**



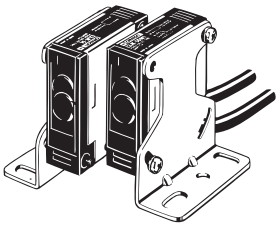

**Mounting Holes**



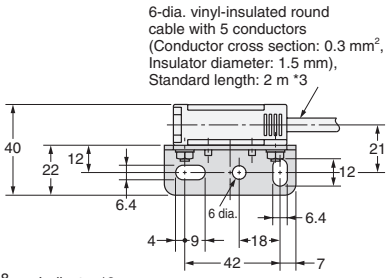

*1. Light indicator (without timer function)
Operation indicator (with timer function)
*2. Mounting Brackets can be used on the A side.

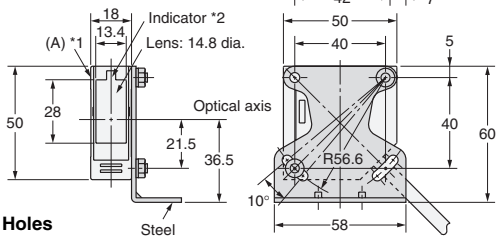
Note: The operating mode switch, timer mode switch, and sensitivity adjuster (sensitivity adjuster: E3JM-DS70□4(T) only) are located inside the cover.

### E3JK-5□□-N *2

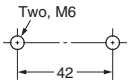


**With Mounting Bracket Attached**



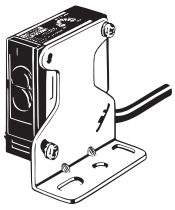




**Mounting Holes**

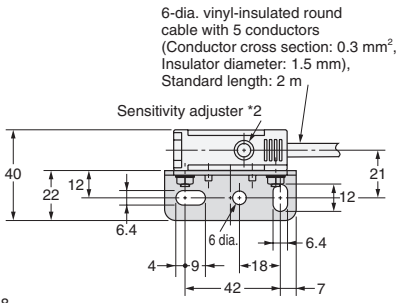


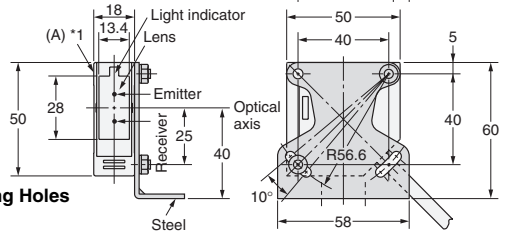

*1. Mounting Brackets can be used on the A side
(M4 20 screws: 2 sets provided)
*2. Emitter: Power indicator
Receiver: Light indicator
*3. The Emitter has two conductors.

### E3JK-R2□□
### E3JK-R4□□
### E3JK-DS30□□

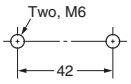


**With Mounting Bracket Attached**




**Mounting Holes**




*1. Mounting Brackets can be used on the A side
(M4 20 screws: 2 sets provided)
*2. Sensitivity adjusters are not available on
Retro-reflective models.

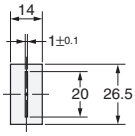
*1. Models numbers for Through-beam Sensors (E3JM-10□4(T)-N) are for sets that include both the Emitter and Receiver.
*2. Models numbers for Through-beam Sensors (E3JK-5□□-N) are for sets that include both the Emitter and Receiver.

## Accessories (Order separately)

### Seal-type Long Slit (For E3JM/E3JK)

**E39-S39**

Materials: Polyester
0.1-mm thick




### Mounting Brackets

Refer to *E39-L/F39-L/E39-S/E39-R* for details.

## Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranty and Limitations of Liability

### WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

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In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

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## Application Considerations

### SUITABILITY FOR USE

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At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

### PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

## Disclaimers

### CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

### DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

### PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

### ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

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**In the interest of product improvement, specifications are subject to change without notice.**

**OMRON Corporation**
**Industrial Automation Company**

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