

Discontinuation Notice of AC/DC free type E3JK series (For America area only).

Product Discontinuation

Built-in Power Supply Photoelectric Sensor

Model E3JK-5□□□-N(-US)
Model E3JK-R□M/S□(-US)
Model E3JK-DS30□□(-US)
Model E3JK-R2H1/2-G



Recommended Replacement

Built-in Power Supply Photoelectric Sensor



Model E3JM-10□4-US
Model E3JM-R4M/S4-US
Model E3JM-DS70□4-US
No recommended replacement

[Discontinuation date]

The end of March, 2015

[Caution on recommended replacement]

- 1) Models for Through-beam Sensors E3JK-5□□□-N are for sets (both the Emitter and Receiver). Must replace the sets. The sensor can't work if replace Emitter or Receiver Separately.
- 2) Other notice are as below:

| | Product discontinuation | Recommended replacement |
|----------------------------------|--|---|
| Mounting Bracket attached | Provided with the E3JK  E39-L40 | Provided with the E3JM  E39-L53 |
| Size | W18 × H50 × D50 | W25 × H65 × D65 |
| Color | Light grey | Black |
| Connection | Pre-wired | Terminal block |
| Sensing distance | E3JK-5□□□-N(-US): 5 m E3JK-DS30□□(-US): 300 mm E3JK-R2□□(-US): 2.5m (With MSR) E3JK-R4□□: 4 m (No MSR) | E3JM-10□4-US: 10 m E3JM-DS70□4-US: 700 mm E3JM-R4□4-US: 4 m (with MSR) |
| Degree of protection | IP64 | IP66 |
| Light-ON/Dark-ON | E3JK-□□□1: Light-ON E3JK-□□□2: Dark-ON E3JK-□□□3: Light-ON/Dark-ON select by wire | E3JM-□□□-US: Light-ON/Dark-ON select by wire or switch |

[Difference from discontinued product]



| Recommended replacement Model | Body Color | Dimen-sions | Wire connection | Mounting Dimensions | Charact-eristics | Operation ratings | Operation methods |
|-------------------------------|------------|-------------|-----------------|---------------------|------------------|-------------------|-------------------|
| E3JM-10□4-US | -- | -- | -- | -- | * | * | -- |
| E3JM-R4M/S4-US | -- | -- | -- | -- | * | * | -- |
| E3JM-DS70□4-US | -- | -- | -- | -- | * | * | -- |

** : Compatible
 * : The change is a little/Almost compatible
 -- : Not compatible
 - : No corresponding specification

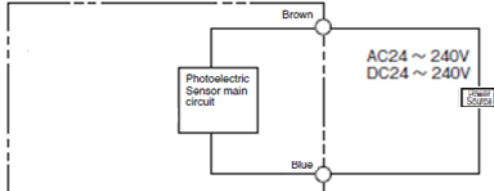
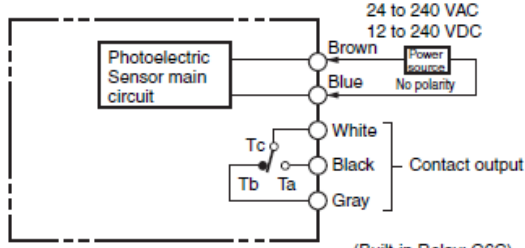
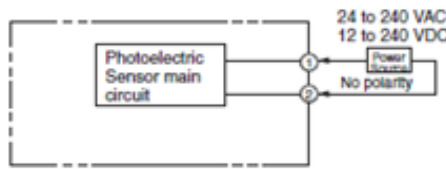
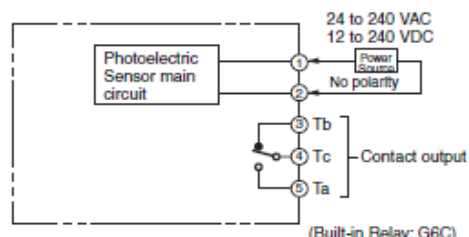
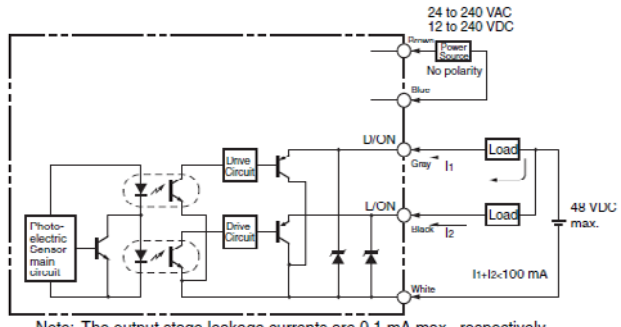
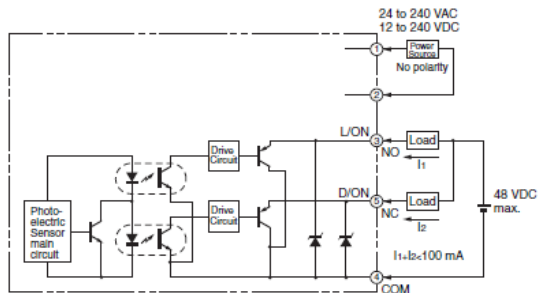
[Product Discontinuation and recommended replacement]

| Product discontinuation | Recommended replacement |
|-------------------------|----------------------------|
| E3JK-R4S3 2M | E3JM-R4S4-US |
| E3JK-R4M2-US | E3JM-R4M4-US |
| E3JK-R4M2 2M | E3JM-R4M4-US |
| E3JK-R4M1-US | E3JM-R4M4-US |
| E3JK-R4M1 2M | E3JM-R4M4-US |
| E3JK-R2S3 5M | E3JM-R4S4-US |
| E3JK-R2S3 2M | E3JM-R4S4-US |
| E3JK-R2R3 5M | E3JM-R4R4-US |
| E3JK-R2R3 2M | E3JM-R4R4-US |
| E3JK-R2M2-US | E3JM-R4M4-US |
| E3JK-R2M2 5M | E3JM-R4M4-US |
| E3JK-R2M2 2M | E3JM-R4M4-US |
| E3JK-R2M1-US | E3JM-R4M4-US |
| E3JK-R2M1 2M | E3JM-R4M4-US |
| E3JK-R2H2-G | No recommended replacement |
| E3JK-R2H1-G | No recommended replacement |
| E3JK-DS30S3 | E3JM-DS70S4-US |
| E3JK-DS30M2-US | E3JM-DS70M4-US |
| E3JK-DS30M2 2M | E3JM-DS70M4-US |
| E3JK-DS30M1-US 2M | E3JM-DS70M4-US |
| E3JK-DS30M1 5M | E3JM-DS70M4-US |
| E3JK-DS30M1 2M | E3JM-DS70M4-US |
| E3JK-5S3-N 2M | E3JM-10S4-US |
| E3JK-5M2-N-US 2M | E3JM-10M4-US |
| E3JK-5M2-N 5M | E3JM-10M4-US |
| E3JK-5M2-N 2M | E3JM-10M4-US |
| E3JK-5M1-N-US 2M | E3JM-10M4-US |
| E3JK-5M1-N 5M | E3JM-10M4-US |
| E3JK-5M1-N 2M | E3JM-10M4-US |
| E3JK-5L-N 2M | E3JM-10M4-US |
| E3JK-5DM2-N 2M | E3JM-10M4-US |

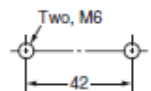
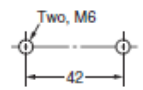
[Body color]

| | |
|---|---|
| <p>Product discontinuation Model E3JK-5□□□-N(-US) Model E3JK-R□M/S□(-US) Model E3JK-DS30□□(-US)</p> | <p>Recommendable replacement Model E3JM-10□4-US Model E3JM-R4M/S4-US Model E3JM-DS70□4-US</p> |
| <p>Case: Light grey</p>  | <p>Case: Black</p>  |

[Wire connection]

| | |
|--|--|
| <p>Product discontinuation Model E3JK-5□□□-N(-US) Model E3JK-R□M/S□(-US) Model E3JK-DS30□□(-US)</p> | <p>Recommendable replacement Model E3JM-10□4-US Model E3JM-R4M/S4-US Model E3JM-DS70□4-US</p> |
| <p>Model E3JK-5L-N</p>  <p>Model E3JK-5M□-N/DS30M□/R□M□(-US)</p>  <p>(Built-in Relay: G6C)</p> | <p>Model E3JM-10L (Emitter)</p>  <p>Model E3JM-10DM4-US (Receiver) Model E3JM-R4M4-US Model E3JM-DS70M4-US</p>  <p>(Built-in Relay: G6C)</p> |
| <p>Model E3JK-5S3-N/DS30S3/R4S3</p>  <p>Note: The output stage leakage currents are 0.1 mA max., respectively.</p> | <p>Model E3JM-10S4-US Model E3JM-R4S4-US Model E3JM-DS70S4-US</p>  <p>Note: The output stage leakage currents are 0.1 mA max., respectively.</p> |

[Mounting dimensions]

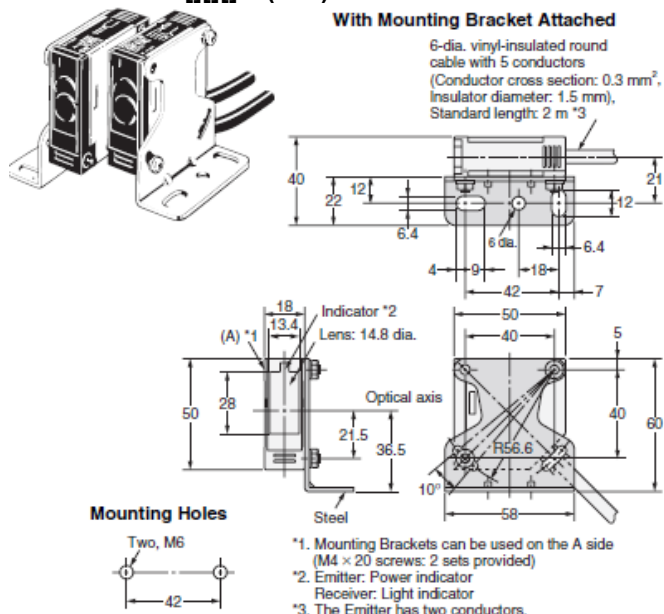
| | |
|---|---|
| <p>Product discontinuation Model E3JK-5□□□-N(-US) Model E3JK-R□M/S□(-US) Model E3JK-DS30□□(-US)</p> | <p>Recommendable replacement Model E3JM-10□4-US Model E3JM-R4M/S4-US Model E3JM-DS70□4-US</p> |
| <p>Mounting Holes</p>  | <p>Mounting Holes</p>  |

[Dimensions]

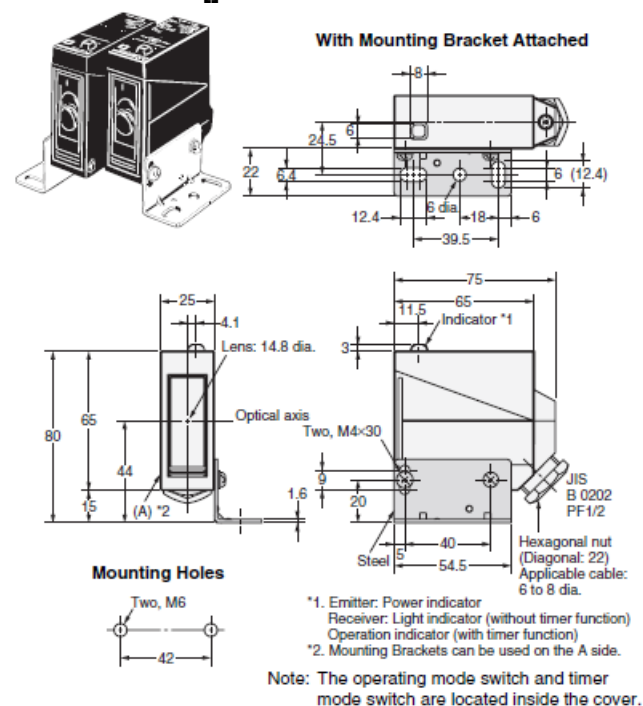
Product discontinuation
Model E3JK-5□□□-N(-US)
Model E3JK-R□M/S□(-US)
Model E3JK-DS30□□(-US)

Recommendable replacement
Model E3JM-10□4-US
Model E3JM-R4M/S4-US
Model E3JM-DS70□4-US

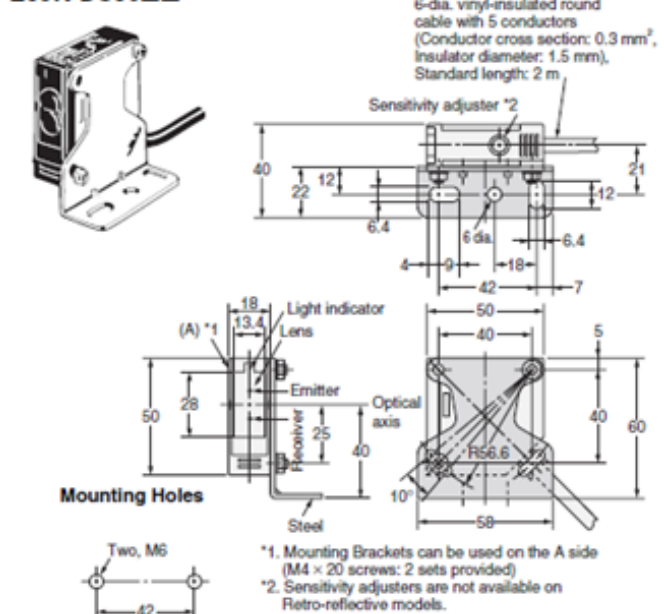
Model E3JK-5□□□-N(-US)



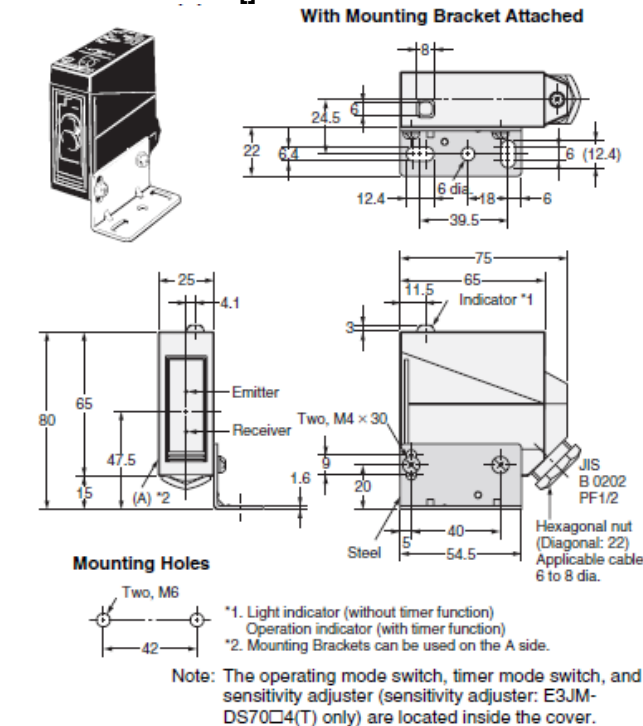
Model E3JM-10□4-US



E3JK-R2□□(-US)
E3JK-R4□□(-US)
E3JK-DS30□□(-US)



Model E3JM-R4M/S4-US
Model E3JM-DS70□4-US



[Characteristics]

| Item | | Product discontinuation Model E3JK-5□□□-N(-US) | Recommendable replacement Model E3JM-10□4-US |
|--------------------------------------|-------------|--|--|
| Sensing distance | | 5 m | 10 m |
| Standard sensing object | | Opaque: 14.8-mm dia. min. | Opaque: 14.8-mm dia. min. |
| Directional angle | | Both Emitter and Receiver 3° to 20° | Both Emitter and Receiver 3° to 20° |
| Light source (wavelength) | | Infrared LED (950 nm) | Infrared LED (950 nm) |
| Power supply voltage | | 12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz | 12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz |
| Power consumption | DC | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) |
| | AC | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) | 3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.) |
| Control output | | 5M□-N: Relay output SPDT, 250 VAC, 3 A max. (cosφ= 1) 5 VDC, 10 mA min. 5S3-N: DC SSR output, Negative: common 48 VDC, 100 mA max. Leakage current: 0.1 mA max. With load short-circuit protection | Relay output (E3JM-10M4-US): SPDT, 250 VAC, 3 A (cosφ=1) max., 5 VDC, 10 mA min. DC SSR output (E3JM-10S4-US): 48 VDC, 100 mA max. (residual voltage: 2 V max.) Light-ON/Dark-ON selectable |
| Response time | | 5M□-N: 30 ms max. 5S3-N: 10 ms max. | E3JM-10M4-US: 30 ms max. E3JM-10S4-US: 5 ms max. |
| Sensitivity adjustment | | None | None |
| Ambient illumination (Receiver side) | | Incandescent lamp: 3,000 lx max. | 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) | Operating: -25°C to 55°C, Storage: -40°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) | Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation) |
| Insulation resistance | | 20 MΩ min. at 500 VDC | 20 MΩ min. at 500 VDC |
| Shock resistance | Destruction | 500 m/s ² 3 times each in X, Y, and Z directions | 500 m/s ² for 3 times each in X, Y, and Z directions |
| | Malfunction | 5M□-N: 100 m/s ² 3 times each in X, Y, and Z directions 5S3-N: 500 m/s ² 3 times each in X, Y, and Z directions | 100 m/s ² for 3 times each in X, Y, and Z directions |
| Degree of protection | | IEC60529 IP64 | IEC60529 IP66 |
| Connection method | | Pre-wired | Terminal block |
| Accessories | | Mounting Bracket (with screws), Nuts, Instruction manual | Mounting Bracket (with screw), Nuts, Terminal Protection Cover, Instruction manual |

| Item | | Product discontinuation Model E3JK-R□M/S□(-US) | Recommendable replacement Model E3JM-R4M/S4-US |
|---|--------------------|--|---|
| Sensing distance | | R2□□(-□): 2.5 m (When using E39-R1) R4□□: 4 m (When using E39-R1) | 4 m (When using E39-R1) |
| Directional angle | | 1° to 5° | 1° to 5° |
| Light source (wavelength) | | Red LED (660 nm) | Red LED (660 nm) |
| Power supply voltage | | 12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz | 12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz |
| Power consumption | DC | 2 W max. | 2 W max. |
| | AC | 2 W max. | 2 W max. |
| Control output | | R2/4M□: Relay output SPDT, 250 VAC, 3 A max. (cosφ=1) 5 VDC, 10 mA min. R2/4S3: DC SSR output, Negative: common 48 VDC, 100 mA max. Leakage current: 0.1 mA max. With load short-circuit protection | Relay output (E3JM-R4M4-US): SPDT, 250 VAC, 3 A (cosφ=1) max., 5 VDC, 10 mA min. DC SSR output (E3JM-R4S4-US): 48 VDC, 100 mA max. (residual voltage: 2 V max.) Light-ON/Dark-ON selectable |
| Response time | | R2/4M□: 30 ms max. R2/4S3: 5 ms max. | E3JM-R4M4-US: 30 ms max. E3JM-R4S4-US: 5 ms max. |
| Sensitivity adjustment | | None | None |
| Ambient illumination (Receiver side) | | Incandescent lamp: 3,000 lx max. | 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) | Operating: -25°C to 55°C, Storage: -40°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) | Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation) |
| Insulation resistance | | 20 MΩ min. at 500 VDC | 20 MΩ min. at 500 VDC |
| Shock resistance | Destruction | 500 m/s ² for 3 times each in X, Y, and Z directions | 500 m/s ² for 3 times each in X, Y, and Z directions |
| | Malfunction | 100 m/s ² for 3 times each in X, Y, and Z directions | 100 m/s ² for 3 times each in X, Y, and Z directions |
| Degree of protection | | IEC60529 IP64 | IEC60529 IP66 |
| Connection method | | Pre-wired | Terminal block |
| Accessories | | Mounting Bracket (with screws), Nuts, Instruction manual, Reflector | Mounting Bracket (with screw), Nuts, Terminal Protection Cover, Instruction manual, Reflector |

| Item | | Product discontinuation Model E3JK-DS30□□(-US) | Recommendable replacement Model E3JM-DS70□□4-US |
|---|--------------------|--|---|
| Sensing distance | | White paper (100 × 100 mm): 300 mm | White paper (200 × 200 mm): 700 mm |
| Light source (wavelength) | | Infrared LED (950 nm) | Infrared LED (950 nm) |
| Power supply voltage | | 12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz | 12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz |
| Power consumption | DC | 2 W max. | 2 W max. |
| | AC | 2 W max. | 2 W max. |
| Control output | | DS30M□: Relay output SPDT, 250 VAC, 3 A max. (cosφ=1) 5 VDC, 10 mA min. DS30S3: DC SSR output, Negative: common 48 VDC, 100 mA max. Leakage current: 0.1 mA max. With load short-circuit protection | Relay output (E3JM-DS70M4-US): SPDT, 250 VAC, 3 A (cosφ=1) max., 5 VDC, 10 mA min. DC SSR output (E3JM-DS70S4-US): 48 VDC, 100 mA max. (residual voltage: 2 V max.) Light-ON/Dark-ON selectable |
| Response time | | DS30M□: 30 ms max. DS30S3: 5 ms max. | E3JM-DS70M4-US: 30 ms max. E3JM-DS70S4-US: 5 ms max. |
| Sensitivity adjustment | | One-turn adjuster | One-turn adjuster |
| Ambient illumination (Receiver side) | | Incandescent lamp: 3,000 lx max. | 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) | Operating: -25°C to 55°C, Storage: -40°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) | Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation) |
| Insulation resistance | | 20 MΩ min. at 500 VDC | 20 MΩ min. at 500 VDC |
| Shock resistance | Destruction | 500 m/s ² for 3 times each in X, Y, and Z directions | 500 m/s ² for 3 times each in X, Y, and Z directions |
| | Malfunction | 100 m/s ² for 3 times each in X, Y, and Z directions | 100 m/s ² for 3 times each in X, Y, and Z directions |
| Degree of protection | | IEC60529 IP64 | IEC60529 IP66 |
| Connection method | | Pre-wired | Terminal block |
| Accessories | | Mounting Bracket (with screws), Nuts, Instruction manual | Mounting Bracket (with screw), Nuts, Terminal Protection Cover, Instruction manual |

[Operation ratings]

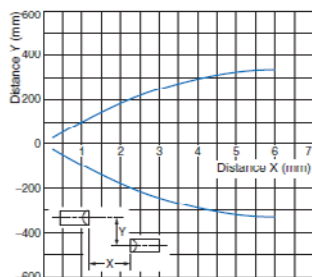
Product discontinuation
Model E3JK-5□□□-N(-US)
Model E3JK-R□□□/S□□(-US)
Model E3JK-DS30□□(-US)

Recommendable replacement
Model E3JM-10□□4-US
Model E3JM-R4M/S□□-US
Model E3JM-DS70□□4-US

Parallel Operating Range

Through-beam

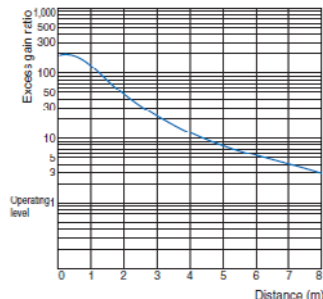
E3JK-5□□□-N



Excess Gain Ratio vs. Set Distance

Through-beam

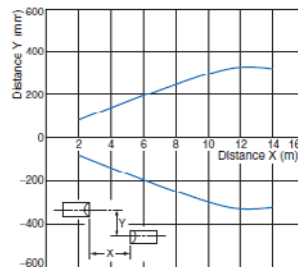
E3JK-5□□□-N



Parallel Operating Range

Through-beam

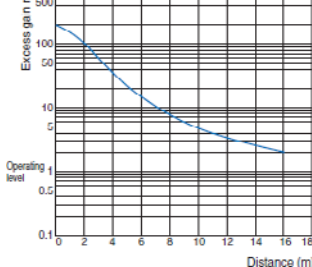
E3JM-10□□4-N-US



Excess Gain Ratio vs. Set Distance

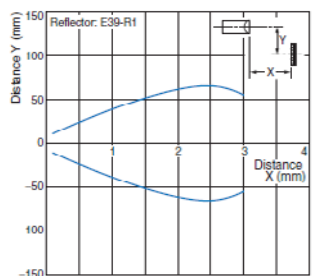
Through-beam

E3JM-10□□4-N-US



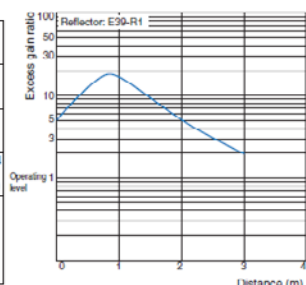
Retro-reflective

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



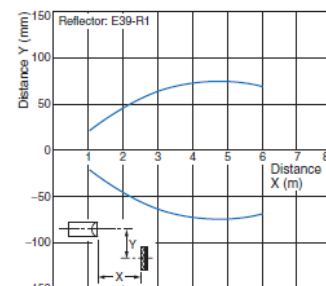
Retro-reflective

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

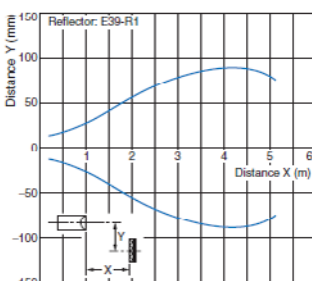


Retro-reflective

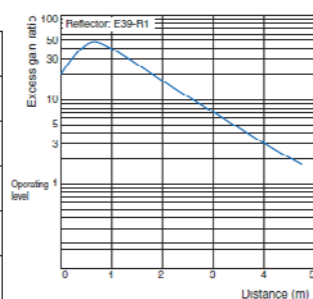
E3JM-R4□□4-US + E39-R1
(Supplied Reflector)



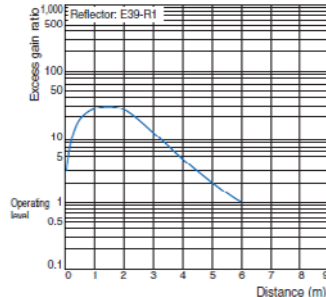
E3JK-R4□□ + E39-R1
(Supplied Reflector)



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



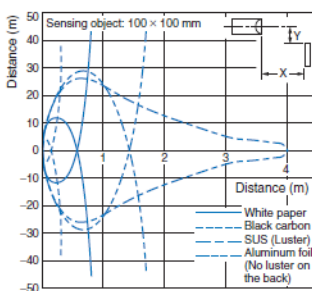
Retro-reflective
E3JM-R4□□4-US + E39-R1
(Supplied Reflector)



Operating Range

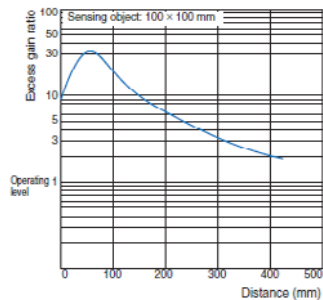
Diffuse-reflective

E3JK-DS30□□



Diffuse-reflective

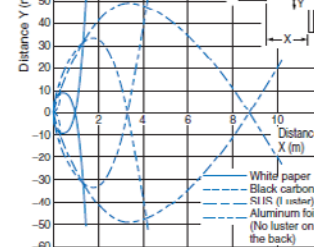
E3JK-DS30□□



Operating Range

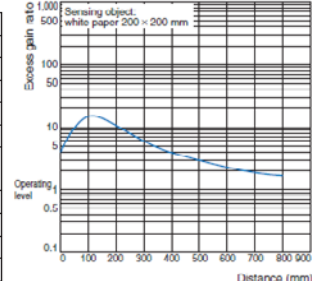
Diffuse-reflective

E3JM-DS70□□4-US



Diffuse-reflective

E3JM-DS70□□4-US



[Operation methods]

| | |
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| <p>Product discontinuation Model E3JK-5□□□-N(-US) Model E3JK-R□M/S□(-US) Model E3JK-DS30□□(-US)</p> | <p>Recommendable replacement Model E3JM-10□4-US Model E3JM-R4M/S□-US Model E3JM-DS70□4-US</p> |
| <p>Sensitivity adjustment E3JK-5□□□-N(-US): None E3JK-R□M/S□(-US): None E3JK-DS30□□(-US): One-turn adjuster</p> <p>Light-ON/Dark-ON adjustment E3JK-□□□1: Light-ON E3JK-□□□2: Dark-ON E3JK-□□□3: Light-ON/Dark-ON select by wire</p> | <p>Sensitivity adjustment E3JM-10□4-US: None E3JM-R4M/S4-US: None E3JM-DS70□4-US: One-turn adjuster</p> <p>Light-ON/Dark-ON adjustment E3JM-□□□□-US: Light-ON/Dark-ON select by wire or switch</p> |

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.