# E3ZM

## Stainless-Steel Housing (SUS316L) - Ideal for the Food Industry! PAT Pending

- ■ Excellent resistance to detergents, disinfectants and jet water spray
- ■ Ecolab Europe certification acquired
- ■ E3Z-size world's smallest square metal photoelectric sensor
- ■ Reversed output polarity protection, external light interference algorithm, etc.
- ■ Complete Compliance with RoHS

⚠ Be sure to read *Safety Precautions* on page 13.

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## Features

**World's Strongest**

### Withstands Detergent and Disinfectant Spray

We used SUS316L for the case and the best material for all parts to achieve 200 times the durability of the E3Z (in 1.5% solution of sodium hydroxide at 70˚C) to make the E3ZM suitable for the cleaning conditions of food-processing machinery.

**World's First**

### Superior Protective Structure

The first IP69K* (DIN 40050-9) protective structure in the world for a square metal photoelectric sensor. Suitable for high-temperature, high-pressure jet water spray cleaning applications.
\* Refer to the footnote on page 5 (ratings and specifications table).

**Industry's Best**
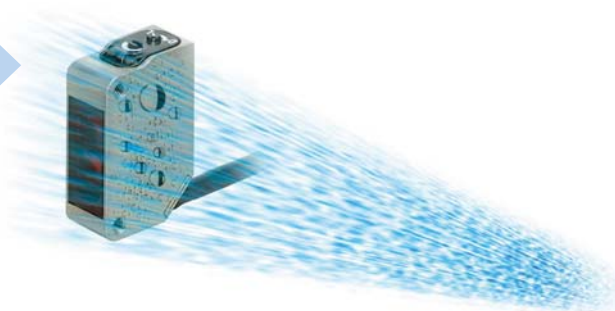
### Shape and Markings Designed for Greater Hygiene

Few indentations in the shape means less dust and water can collect, making the E3ZM more hygienic. No labels have been used in order to prevent foreign matter contaminating food products. The E3ZM model and lot numbers are imprinted using a laser marker.
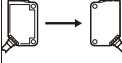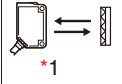
Rear

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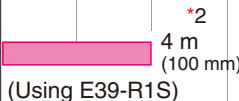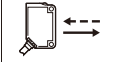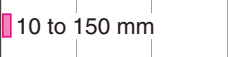
## Ordering Information

### Sensors

Red light ▮ Infrared light ▯

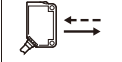| Sensing method | Appear-ance | Connection method | Sensing distance | Model | |
|---|---|---|---|---|---|
| | | | | NPN output | PNP output |
| Through-beam *5 | | Pre-wired (2 m) *3 | 15 m | E3ZM-T61 | E3ZM-T81 |
| | | Connector (M8, 4 pins) *4 | | E3ZM-T66 | E3ZM-T86 |
| | | Pre-wired (2 m) *3 | 0.8 m (apertures built in) | E3ZM-T63 | E3ZM-T83 |
| | | Connector (M8, 4 pins) *4 | | E3ZM-T68 | E3ZM-T88 |
| Retro-reflective with MSR function | *1 | Pre-wired (2 m) *3 | *2 4 m (100 mm) (Using E39-R1S) | E3ZM-R61 | E3ZM-R81 |
| | | Connector (M8, 4 pins) *4 | | E3ZM-R66 | E3ZM-R86 |
| Diffuse-reflective | | Pre-wired (2 m) *3 | 1 m | E3ZM-D62 | E3ZM-D82 |
| | | Connector (M8, 4 pins) *4 | | E3ZM-D67 | E3ZM-D87 |
| BGS reflective (fixed distance) | | Pre-wired (2 m) *3 | 10 to 100 mm | E3ZM-LS61H | E3ZM-LS81H |
| | | Connector (M8, 4 pins) *4 | | E3ZM-LS66H | E3ZM-LS86H |
| | | Pre-wired (2 m) *3 | 10 to 150 mm | E3ZM-LS62H | E3ZM-LS82H |
| | | Connector (M8, 4 pins) *4 | | E3ZM-LS67H | E3ZM-LS87H |
| | | Pre-wired (2 m) *3 | 10 to 200 mm | E3ZM-LS64H | E3ZM-LS84H |
| | | Connector (M8, 4 pins) *4 | | E3ZM-LS69H | E3ZM-LS89H |

*1. The Reflector is sold separately. Select the Reflector model most suited to the application.
*2. Values in parentheses indicate the minimum required distance between the Sensor and Reflector.
*3. Pre-wired Models with a 5-m cable are also available for these products. When ordering, specify the cable length by adding "5M" to the end of the model number (e.g., E3ZM-LT61 5M).
  M12 Pre-wired Connector Models are also available. When ordering, add "-M1J" to the end of the model number (e.g., E3ZM-R61-M1J 0.3m).
*4. M8 Connector Models are also available with three-pin connectors. When ordering, add "-M5" to the end of the model number (e.g., E3ZM-T66-M5).
  This does not apply to BGS Reflective Models, however, because they require 4 pins.
*5. Through-beam Models are also available with a light emission stop function. When ordering, add "-G0" to the end of the model number (e.g., E3ZM-T61-G0).

### Accessories

#### Reflectors

| Name | E3ZM-R Sensing distance (typical) * | Model | Quantity | Remarks |
|---|---|---|---|---|
| Reflector | 3 m (100 mm) (rated value) | E39-R1 | 1 | • Reflectors are not provided with Retro-reflective models. • The MSR function is enabled. |
| | 4 m (100 mm) (rated value) | E39-R1S | 1 | |
| | 5 m (100 mm) | E39-R2 | 1 | |
| | 2.5 m (100 mm) | E39-R9 | 1 | |
| | 3.5 m (100 mm) | E39-R10 | 1 | |
| Fog Preventive Coating | 3 m (100 mm) | E39-R1K | 1 | |
| Small Reflector | 1.5 m (50 mm) | E39-R3 | 1 | |
| Tape Reflector | 700 mm (150 mm) | E39-RS1 | 1 | |
| | 1.1 m (150 mm) | E39-RS2 | 1 | |
| | 1.4 m (150 mm) | E39-RS3 | 1 | |

Note: When using a Reflector without a rated value, use 0.7 times typical value as a guideline for the sensing distance.
* Values in parentheses indicate the minimum required distance between the Sensor and Reflector.
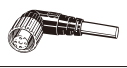
## Mounting Brackets

| Appearance | Model (Material) | Quantity | Remarks | Appearance | Model (Material) | Quantity | Remarks |
|---|---|---|---|---|---|---|---|
| | E39-L153 (SUS304) | 1 | Mounting Brackets | | E39-L98 (SUS304) | 1 | Metal Protective Cover Bracket * |
| | E39-L104 (SUS304) | 1 | | | E39-L150 (SUS304) | 1 set | (Sensor adjuster) |
| | E39-L43 (SUS304) | 1 | Horizontal Mounting Bracket * | | E39-L151 (SUS304) | 1 set | Easily mounted to the aluminum frame rails of conveyors and easily adjusted.<br><br>For left to right adjustment |
| | E39-L142 (SUS304) | 1 | Horizontal Protective Cover Bracket * | | | | |
| | E39-L44 (SUS304) | 1 | Rear Mounting Bracket | | E39-L144 (SUS304) | 1 | Compact Protective Cover Bracket * |

Note: When using Through-beam Models, order one bracket for the Receiver and one for the Emitter.
* Cannot be used for Standard Connector models.

## Sensor I/O Connectors

| Size | Cable | Appearance | | Cable type | | Model |
|---|---|---|---|---|---|---|
| M8 (4 pins) | Standard | Straight | 2 m | 4-wire | | XS3F-M421-402-A |
| | | | 5 m | | | XS3F-M421-405-A |
| | | L-shaped | 2 m | | | XS3F-M422-402-A |
| | | | 5 m | | | XS3F-M422-405-A |
| M12 (For -M1J models) | | Straight | 2 m | 3-wire | | XS2F-D421-DC0-A |
| | | | 5 m | | | XS2F-D421-GC0-A |
| | | L-shaped | 2 m | | | XS2F-D422-DC0-A |
| | | | 5 m | | | XS2F-D422-GC0-A |
| | | Straight | 2 m | 4-wire | | XS2F-D421-D80-A |
| | | | 5 m | | | XS2F-D421-G80-A |
| | | L-shaped | 2 m | | | XS2F-D422-D80-A |
| | | | 5 m | | | XS2F-D422-G80-A |

*1. The performance will be IP67 because of the connector specifications.
*2. Cable specifications: Outer coating material: PVC, Nut material: Stainless steel, Degree of protection: IP67 (IEC 60529)

## Ratings and Specifications

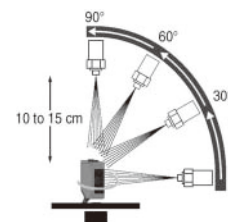| | Sensing method | Through-beam | | Retro-reflective with MSR function | Diffuse-reflective Models |
|---|---|---|---|---|---|
| **Model** | **NPN output** | E3ZM-T61<br>E3ZM-T66 | E3ZM-T63<br>E3ZM-T68 | E3ZM-R61<br>E3ZM-R66 | E3ZM-D62<br>E3ZM-D67 |
| **Item** | **PNP output** | E3ZM-T81<br>E3ZM-T86 | E3ZM-T83<br>E3ZM-T88 | E3ZM-R81<br>E3ZM-R86 | E3ZM-D82<br>E3ZM-D87 |
| **Sensing distance** | | 15 m | 0.8 m | 4 m [100 mm]<br>(Using E39-R1S)<br>3 m [100 mm]<br>(Using E39-R1) | 1 m<br>(White paper<br>300 × 300 mm) |
| **Spot diameter (typical)** | | --- | | | |
| **Standard sensing object** | | Opaque: 12-mm dia. min. | Opaque: 2-mm dia. min. | Opaque: 75-mm dia. min. | --- |
| **Differential travel** | | --- | | | 20% of sensing distance max. |
| **Black/white error** | | --- | | | |
| **Directional angle** | | Emitter, Receiver: 3° to 15° | | Sensor: 3° to 10°<br>Reflector: 30° | --- |
| **Light source (wavelength)** | | Infrared LED (870 nm) | | Red LED (660 nm) | Infrared LED (860 nm) |
| **Power supply voltage** | | 10 to 30 VDC, including 10% ripple (p-p) | | | |
| **Current consumption** | | 40 mA max. (Emitter 20 mA max., Receiver 20 mA max.) | | 25 mA max. | |
| **Control output** | | Load power supply voltage: 30 VDC max., Load current: 100 mA max. (Residual voltage: 2 V max.)<br>Open-collector output (NPN/PNP output depending on model)<br>Light-ON/Dark-ON switch selectable | | | |
| **Protection circuits** | | Reversed power supply polarity protection, Output short-circuit protection, and Reversed output polarity protection | | Reversed power supply polarity protection, Output short-circuit protection, Mutual interference prevention, and Reversed output polarity protection | |
| **Response time** | | Operate or reset: 1 ms max. | | | |
| **Sensitivity adjustment** | | One-turn adjuster | | | |
| **Ambient illumination (Receiver side)** | | Incandescent lamp: 3,000 lx max., Sunlight: 10,000 lx max. | | | |
| **Ambient temperature range** | | Operating: –25 to 55°C, Storage: –40 to 70°C (with no icing or condensation) | | | |
| **Ambient humidity range** | | Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) | | | |
| **Insulation resistance** | | 20 MΩ min. at 500 VDC | | | |
| **Dielectric strength** | | 1,000 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 | | | |
| **Shock resistance** | | Destruction: 500 m/s$^2$ 3 times each in X, Y, and Z directions | | | |
| **Degree of protection *** | | IEC: IP67, DIN 40050-9: IP69K | | | |
| **Connection method** | | Pre-wired cable (standard length: 2 m)<br>M8 4-pin Connector | | | |
| **Indicator** | | Operation indicator (yellow), Stability indicator (green) (Emitter has only power supply indicator (green).) | | | |
| **Weight (packed state)** | **Pre-wired models (with 2-m cable)** | Approx. 150 g | | Approx. 90 g | |
| | **Connector models** | Approx. 60 g | | Approx. 40 g | |
| **Materials** | **Case** | SUS316L | | | |
| | **Lens** | PMMA (polymethylmethacrylate) | | | |
| | **Display** | PES (polyethersulfone) | | | |
| | **Sensitivity adjustment and mode selector switch** | PEEK (polyetheretherketone) | | | |
| | **Seals** | Fluoro rubber | | | |
| **Accessories** | | Instruction sheet (Note: Reflectors and Mounting Brackets are sold separately.) | | | |

* IP69K Degree of Protection Specifications
IP69K is a protection specification stipulated by DIN 40050 Part 9 of the German standards.
The test item is sprayed with 80°C water from a nozzle of a specified shape at a water pressure of 80 to 100 bar. The amount of water is 14 to 16 liters per minute.
The distance between the test item and the nozzle is 10 to 15 cm. The water is discharged at angles of 0°, 30°, 60°, and 90° from the horizontal plane for 30 seconds at each angle while the test item is rotated horizontally.

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| | Sensing method | BGS Reflective Models | | |
|---|---|---|---|---|
| **Model** | **NPN output** | E3ZM-LS61H<br>E3ZM-LS66H | E3ZM-LS62H<br>E3ZM-LS67H | E3ZM-LS64H<br>E3ZM-LS69H |
| **Item** | **PNP output** | E3ZM-LS81H<br>E3ZM-LS86H | E3ZM-LS82H<br>E3ZM-LS87H | E3ZM-LS84H<br>E3ZM-LS89H |
| **Sensing distance** | | 10 to 100 mm<br>(White paper 100 × 100 mm) | 10 to 150 mm<br>(White paper 100 × 100 mm) | 10 to 200 mm<br>(White paper 100 × 100 mm) |
| **Spot diameter (typical)** | | 4-mmdia. at sensing distance of 100 mm | 12-mmdia. at sensing distance of 150 mm | 18-mmdia. at sensing distance of 200 mm |
| **Standard sensing object** | | --- | | |
| **Differential travel** | | 3% of sensing distance max. | 15% of sensing distance max. | 20% of sensing distance max. |
| **Black/white error** | | 5% of sensing distance max. | 10% of sensing distance max. | 20% of sensing distance max. |
| **Directional angle** | | --- | | |
| **Light source (wavelength)** | | Red LED (650 nm) | Red LED (660 nm) | |
| **Power supply voltage** | | 10 to 30 VDC, including 10% ripple (p-p) | | |
| **Current consumption** | | 25 mA max. | | |
| **Control output** | | Load power supply voltage: 30 VDC max., Load current: 100 mA max. (Residual voltage: 2 V max.)<br>Open-collector output (NPN/PNP output depending on model)<br>Light-ON/Dark-ON cable connection selectable | | |
| **Protection circuits** | | Reversed power supply polarity protection, Output short-circuit protection, Reversed output polarity protection, Mutual interference protection | | |
| **Response time** | | Operate or reset: 1 ms max. | | |
| **Sensitivity adjustment** | | --- | | |
| **Ambient illumination (Receiver side)** | | Incandescent lamp: 3,000 lx max., Sunlight: 10,000 lx max. | | |
| **Ambient temperature range** | | Operating: −25 to 55°C, Storage: −40 to 70°C (with no icing or condensation) | | |
| **Ambient humidity range** | | Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) | | |
| **Insulation resistance** | | 20 MΩ min. at 500 VDC | | |
| **Dielectric strength** | | 1,000 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 | | |
| **Shock resistance** | | Destruction: 500 m/s$^2$ 3 times each in X, Y, and Z directions | | |
| **Degree of protection \*** | | IEC: IP67, DIN 40050-9: IP69K | | |
| **Connection method** | | Pre-wired cable (standard length: 2 m)<br>M8 4-pin Connector | | |
| **Indicator** | | Operation indicator (yellow), Stability indicator (green) | | |
| **Weight (packed state)** | **Pre-wired models (with 2-m cable)** | Approx. 90 g | | |
| | **Connector models** | Approx. 40 g | | |
| **Materials** | **Case** | SUS316L | | |
| | **Lens** | PMMA (polymethylmethacrylate) | | |
| | **Display** | PES (polyethersulfone) | | |
| | **Seals** | Fluoro rubber | | |
| **Accessories** | | Instruction sheet (Note: Mounting Brackets are sold separately.) | | |

\* IP69K Degree of Protection Specifications
IP69K is a protection specification stipulated by DIN 40050 Part 9 of the German standards.
The test item is sprayed with 80°C water from a nozzle of a specified shape at a water pressure of 80 to 100 bar. The amount of water is 14 to 16 liters per minute.
The distance between the test item and the nozzle is 10 to 15 cm. The water is discharged at angles of 0°, 30°, 60°, and 90° from the horizontal plane for 30 seconds at each angle while the test item is rotated horizontally.
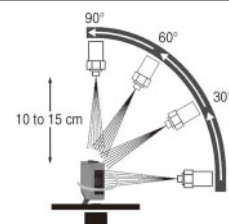
# I/O Circuit Diagrams

## NPN Output

| Model | Operation mode | Timing charts | Operation selector | Output circuit |
|---|---|---|---|---|
| E3ZM-T61<br>E3ZM-T63<br>E3ZM-T66<br>E3ZM-T68<br>E3ZM-R61<br>E3ZM-R66<br>E3ZM-D62<br>E3ZM-D67 | Light-ON | Light incident<br>Light interrupted<br>Operation indicator (yellow) ON/OFF<br>Output transistor ON/OFF<br>Load (e.g., relay) Operate/Reset<br>(Between brown and black leads) | L side (LIGHT ON) | **Through-beam Receivers, Retro-reflective Models, Diffuse-reflective Models**  |
| | Dark-ON | Light incident<br>Light interrupted<br>Operation indicator (yellow) ON/OFF<br>Output transistor ON/OFF<br>Load (e.g., relay) Operate/Reset<br>(Between brown and black leads) | D side (DARK ON) | |
| | | **Through-beam Emitter**  | | |
| E3ZM-T61-G0<br>E3ZM-T63-G0<br>E3ZM-T66-G0<br>E3ZM-T68-G0 | --- | Light emission stop function ON/OFF<br>(Between blue (3) and pink (2) leads)<br>Emitter LED ON/OFF<br>Indicator (green) ON/OFF | --- | **Through-beam Emitter**  |
| E3ZM-LS61H<br>E3ZM-LS66H<br>E3ZM-LS62H<br>E3ZM-LS67H<br>E3ZM-LS64H<br>E3ZM-LS69H | Light-ON | NEAR FAR<br>Operation indicator (yellow) ON/OFF<br>Output transistor ON/OFF<br>Load (e.g., relay) Operate/Reset<br>(Between brown and black leads) | Connect pink lead (2) to brown lead (1). |  |
| | Dark-ON | NEAR FAR<br>Operation indicator (yellow) ON/OFF<br>Output transistor ON/OFF<br>Load (e.g., relay) Operate/Reset<br>(Between brown and black leads) | Connect pink lead (2) to blue lead (3) or leave open. | |

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## PNP Output

| Model | Operation mode | Timing charts | Operation selector | Output circuit |
|---|---|---|---|---|
| E3ZM-T81<br>E3ZM-T83<br>E3ZM-T86<br>E3ZM-T88<br>E3ZM-R81<br>E3ZM-R86<br>E3ZM-D82<br>E3ZM-D87 | Light-ON | Light incident<br>Light interrupted<br>Operation indicator (yellow) ON / OFF<br>Output transistor ON / OFF<br>Load (e.g., relay) Operate / Reset<br>(Between blue and black leads) | L side (LIGHT ON) | **Through-beam Receivers, Retro-reflective Models, Diffuse-reflective Models**<br><br>Operation indicator (Yellow) — Stability indicator (Green) — Photo-electric Sensor Main Circuit — Brown ① 10 to 30 VDC — $Z_D$ — (Control output) — Black ④ 100 mA max. — Load (Relay) — Blue ③ 0 V |
| | Dark-ON | Light incident<br>Light interrupted<br>Operation indicator (yellow) ON / OFF<br>Output transistor ON / OFF<br>Load (e.g., relay) Operate / Reset<br>(Between blue and black leads) | D side (DARK ON) | |
| | | **Through-beam Emitter**<br><br>Power indicator (Green) — Photo-electric Sensor Main Circuit — Brown ① — 10 to 30 VDC — Blue ③ | | |
| E3ZM-T81-G0<br>E3ZM-T83-G0<br>E3ZM-T86-G0<br>E3ZM-T88-G0 | --- | Light emission stop function ON / OFF<br>(Between brown (1) and pink (2) leads)<br>Emitter LED ON / OFF<br>Indicator (green) ON / OFF | --- | **Through-beam Emitter**<br><br>Power indicator (Green) — Photo-electric Sensor Main Circuit — Brown ① 10 to 30 VDC (Light emission stop input) — Pink ② — Blue ③ 0 V |
| E3ZM-LS81H<br>E3ZM-LS86H<br>E3ZM-LS82H<br>E3ZM-LS87H<br>E3ZM-LS84H<br>E3ZM-LS89H | Light-ON | NEAR FAR<br>Operation indicator (yellow) ON / OFF<br>Output transistor ON / OFF<br>Load (e.g., relay) Operate / Reset<br>(Between blue and black leads) | Connect pink lead (2) to brown lead (1). | Operation indicator (Yellow) — Stability indicator (Green) — Photo-electric Sensor Main Circuit — Brown ① 10 to 30 VDC — $Z_D$ — Light-ON — Black ④ 100 mA max. (Control output) — Blue ③ Load (Relay) — Dark-ON — Pink ② 0 V |
| | Dark-ON | NEAR FAR<br>Operation indicator (yellow) ON / OFF<br>Output transistor ON / OFF<br>Load (e.g., relay) Operate / Reset<br>(Between blue and black leads) | Connect pink lead (2) to blue lead (3) or leave open. | |

## Connector Pin Arrangement

### M8 Connector (-CN)/M8 Pre-wired Connector
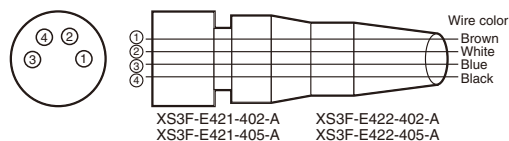
M8 4-pin Connector Pin Arrangement

② ④
① ③

### M8 Pre-wired 3-pin Connector

M8 3-pin Connector Pin Arrangement

④
① ③

## Plugs (Sensor I/O Connectors)

### M8 4-pin Connectors

④ ②
③ ①

① Brown<br>② White<br>③ Blue<br>④ Black

Wire color

XS3F-E421-402-A
XS3F-E421-405-A

XS3F-E422-402-A
XS3F-E422-405-A

# Dimensions

## Sensors

### Through-beam Models
**Pre-wired Models**
**E3ZM-T61(-G0)**
**E3ZM-T81(-G0)**
**E3ZM-T63(-G0)**
**E3ZM-T83(-G0)**

Emitter

10.8
21
Power indicator
(green)

Optical
axis
20.6
15.5
7.5
32.2 31 25.4
Two, M3

4-dia. vinyl-insulated round cable with
2 or 3 conductors (Conductor cross section:
0.2 mm² (AWG24), Insulator diameter: 1.1 mm),
Standard length: 2 m

Receiver

Operation selector
Sensitivity adjuster
10.8
Operation indicator (yellow)
Stability indicator (green)
11.6
4.5
21

Optical
axis
20.6
15.5
2
7.5
32.2 31 25.4
Two, M3

4-dia. vinyl-insulated round cable with
3 conductors (Conductor cross section:
0.2 mm² (AWG24), Insulator diameter: 1.1 mm),
Standard length: 2m

### Through-beam Models
**Standard Connector**
**E3ZM-T66(-G0)**
**E3ZM-T86(-G0)**
**E3ZM-T68(-G0)**
**E3ZM-T88(-G0)**

Receiver

10.8
21
Operation indicator (green)

Optical
axis
20.6
15.5
7.5
32.2 31 25.4
0.7 Two,
M3
M8 × 1

2 4
1 3
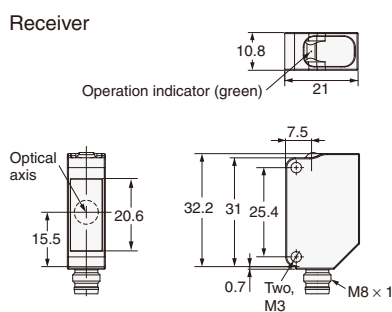
| Terminal No. | Specifications |
|---|---|
| 1 | +V |
| 2 | Light emission stop input (-G0 only) |
| 3 | 0 V |
| 4 | --- |
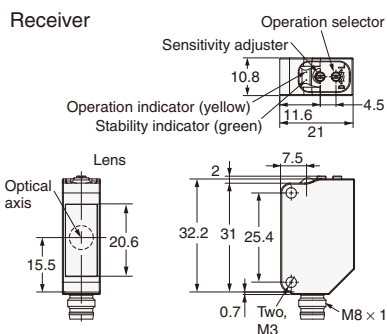
Receiver

Operation selector
Sensitivity adjuster
10.8
Operation indicator (yellow)
Stability indicator (green)
11.6
4.5
21

Lens
Optical
axis
20.6
15.5
2
7.5
32.2 31 25.4
0.7 Two,
M3
M8 × 1

2 4
1 3

| Terminal No. | Specifications |
|---|---|
| 1 | +V |
| 2 | --- |
| 3 | 0 V |
| 4 | Output |

**OMRON**

## Retro-reflective Models
**Pre-wired Models**
E3ZM-R61
E3ZM-R81
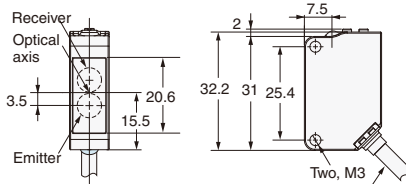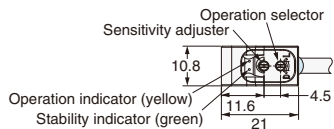
## Diffuse-reflective Models
**Standard Connector**
E3ZM-D62
E3ZM-D82

Operation selector
Sensitivity adjuster
10.8
Operation indicator (yellow)
Stability indicator (green)
11.6
4.5
21

Receiver
Optical axis
3.5
20.6
15.5
Emitter

2
7.5
32.2  31  25.4
Two, M3

4-dia. vinyl-insulated round cable with
3 conductors (Conductor cross section:
0.2 mm² (AWG24), Insulator diameter: 1.1 mm),
Standard length: 2m
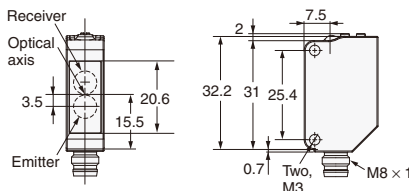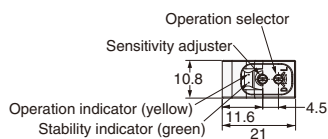
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## Retro-reflective Models
**Standard Connector**
E3ZM-R66
E3ZM-R86

## Diffuse-reflective Models
**Standard Connector**
E3ZM-D67
E3ZM-D87

Operation selector
Sensitivity adjuster
10.8
Operation indicator (yellow)
Stability indicator (green)
11.6
4.5
21

Receiver
Optical axis
3.5
20.6
15.5
Emitter

2
7.5
32.2  31  25.4
0.7  Two,  M8 × 1
M3

2  4
1  3

| Terminal No. | Specifications |
|---|---|
| 1 | +V |
| 2 | --- |
| 3 | 0 V |
| 4 | Output |

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## BGS Reflective Models
**Pre-wired Models**
E3ZM-LS61H
E3ZM-LS62H
E3ZM-LS64H
E3ZM-LS81H
E3ZM-LS82H
E3ZM-LS84H

10.8
Operation indicator (yellow)
Stability indicator (green)
21

Receiver
Optical axis
3.5
20.6
15.5
Emitter

7.5
32.2  31  25.4
Two, M3
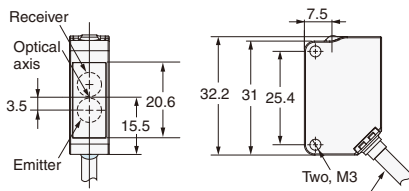
4-dia. vinyl-insulated round cable with
4 conductors (Conductor cross section:
0.2 mm² (AWG24), Insulator diameter: 1.1 mm),
Standard length: 2m
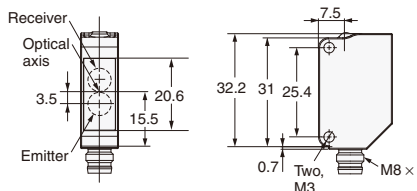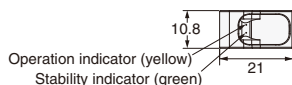
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## BGS Reflective Models
**Standard Connector**
E3ZM-LS66H
E3ZM-LS67H
E3ZM-LS69H
E3ZM-LS86H
E3ZM-LS87H
E3ZM-LS89H

10.8
Operation indicator (yellow)
Stability indicator (green)
21

Receiver
Optical axis
3.5
20.6
15.5
Emitter

7.5
32.2  31  25.4
0.7  Two,  M8 × 1
M3

2  4
1  3

| Terminal No. | Specifications |
|---|---|
| 1 | +V |
| 2 | Operation selection |
| 3 | 0 V |
| 4 | Output |

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# OMRON