Photoelectric Sensors

**E3FA/E3RA/E3FB/E3RB**

**M18 Threaded Cylindrical**
- High power visible red LED for easy setup and for blasting through dusty environments
- Large sensitivity adjustor for calibration with a standard size screwdriver
- Compact short body allows for mounting in tight spaces
- Light-ON/Dark-ON selectable by wiring
- High EMC protection and ambient light immunity
- Flush mounting option

**Applications**
- General purpose or long distance sensing
- Packaging: Limited distance sensors to detect transparent or shiny film
- Food & Beverage: Transparent Object Detection sensors for clear plastic or glass bottles
- Conveyors and distribution facilities
- Product Inspection

**Housing Material**
- E3FA/E3RA: ABS (Acrylonitrile butadiene styrene)
- E3FB/E3RB: Nickel-plated brass

**Environment Protection**
- IP67 and IP69K

<table>
<thead>
<tr>
<th>Connector Style</th>
<th>Voltage</th>
<th>Sensing Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 3-pin, M12</td>
<td>10-30 VDC</td>
<td>1 m, 10 m, 15 m</td>
</tr>
<tr>
<td>M8 4-pin, M12</td>
<td>12-24 VDC</td>
<td>5 m, 15 m, 20 m</td>
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<td>NA</td>
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**Environment Protection**
- IP67 and IP69K

**Response Time**
- Operation or Reset 0.5ms max

**Popular Part Number**
- E3ZT66, E3ZT68, E3Z-R65
- E3Z-R68, E3Z-D62-M51, E3Z-D82-M5J

**Accessories**
- Mounting Bracket, Adjustable Arm, Cable Connectors

**E3Z General Purpose Rectangular**
- The E3Z product line is among the world’s most popular photoelectric sensor
- The E3Z series has a compact size allowing the sensor to fit in most applications
- Built in noise immunity allows the E3Z series to be used in circuits with inverters and other inductive loads
- Advanced high power LED allows use in brightly lit manufacturing applications

**Applications**
- General purpose sensing: including long distance detection with noise immunity and transparent film or object
- Conveyors and distribution facilities
- Filling and packaging machines
- Product inspection from glass and plastic bottles to color and mark detection

**Housing Material**
- PBT (polybutylene terephthalate)

**Environment Protection**
- IP67

**Response Time**
- Operation or Reset 1ms max

**Popular Part Number**
- E3ZT66, E3ZT68, E3Z-R65
- E3Z-R68, E3Z-D62-M51, E3Z-D82-M5J

**Accessories**
- Mounting Bracket, Adjustable Arm, Cable Connectors

**E3ZM Stainless Steel Housing**
- Rugged, detergent-resistant stainless steel housing for harsh environments
- Compact housing size and high power LED for excellent long life performance
- ECOLAB tested and certified for applications that require a wash down and scrub down cleaning
- Designed for high temperature and high pressure jet water spray cleaning

**Applications**
- Meat, poultry and fish processing
- Food packing plants
- Packaging applications
- General purpose sensing where rugged product can damage equipment

**Housing Material**
- SUS316L (Stainless Steel 316)

**Environment Protection**
- IP67 and IP69

**Response Time**
- Operation or Reset 2ms max

**Popular Part Number**
- E3ZM-LP21, E3ZM-TP21, E3ZM-DP22
- E3ZM-CR86, E3ZM-CD67, E3ZM-CD87

**Accessories**
- Mounting Bracket, Adjustable Arm, Cable Connector

**E3ZM-C Oil Resistant**
- Oil and coolant resistant stainless steel housing for use in mechanically demanding environments
- High visibility orange LED in through-beam model for easy alignment
- Sensors unaffected by dirty lens

**Applications**
- Machining and tool making
- Automotive assembly lines
- Cleaning parts with chemicals
- Applying grease to manufactured parts

**Housing Material**
- SUS316L (Stainless Steel 316)

**Environment Protection**
- IP69

**Response Time**
- Operation or Reset 1ms max

**Popular Part Number**
- E3ZM-LP21, E3ZM-TP21, E3ZM-DP22
- E3ZM-CR86, E3ZM-CD67, E3ZM-CD87

**Accessories**
- Mounting Bracket, Adjustable Arm, Cable Connector

**E3ZM-B Transparent Object Detection**
- General transparent material detection
- Models providing highest detection of PET bottles
- Stainless steel housing for Detergent resistant wash down applications
- Easy installation with “quick-teach” function for delicate sensitivity adjustment

**Applications**
- Plastic Bottle conveying
- Food and beverage packaging
- Transparent film processing

**Housing Material**
- E3ZM: Stainless Steel

**Environment Protection**
- IP67

**Response Time**
- Operation or Reset 1ms max

**Popular Part Number**
- E3ZM-866-C, E3ZM-886-C

**Accessories**
- Mounting Bracket, Adjustable Arm, Cable Connector
Photoelectric Sensors

E3T Miniature Sensor
- Small size with pinpoint LED where space is crucial
- 3.5 mm thick flat model with reliable background suppression and small black/white error
- Unique optical alignment technology ensuring minimal deviation of sensing angle
- High ambient light immunity for bright factory floor applications

E3Z-G Fork Shaped Housing
- The forked shape through-beam sensors has a 25 mm sensing distance
- Slotted head eliminates the need for optical axis adjustment
- One or two axes models

E3Z-B Transparent Object Detection
- Utilizes OMRON’S unique optical system (“Inner View”) to detect various shapes of PET bottles and transparent objects
- Detects a wide range of bottles from single bottles to sets of stocked bottles
- Easy adjustment for detailed setup by potentiometer

Applications
- Plastic Bottle conveying
- Conveying and packaging PET plastic bottle
- Food and beverage packaging

E3Z-LASER Laser Sensor
- Compact plastic housing fits in most applications
- Class 2 LASER (FDA)
- Visible LASER light for easy installation, accurate positioning, small object detection and long range precision
- Precise background suppression and low black/white error for accurate detection

Applications
- Jam prevention conveying at high speeds
- Precise positioning of product
- Detection of damage or warn equipment like drill bits or saw blades
- Textile mills and sheet good sensing (Start, end of roll and Mark detection along the way)

E3Z-C: Stainless Steel 303
- Through-Beam Sensing Range 60 m
- Retro-Reflective Sensing Range 15 m
- Diffuse-Reflective Sensing Range NA
- Power Supply Voltage 12-24 VDC
- Light Source Red LED
- Class II

Environment Protection
- IP67

Response Time
- Operation or Reset 1ms max

Popular Part Number
- E3Z-LT66 • E3Z-LT86 • E3Z-LR66 • E3Z-LR86 • E3Z-LL66 • E3Z-LL86

Accessories
- Mounting Bracket, Adjustable Arm, Cable Connector

E3Z-B Transparent Object Detection
- Utilizes OMRON’S unique optical system (“Inner View”) to detect various shapes of PET bottles and transparent objects
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Applications
- Plastic Bottle conveying
- Conveying and packaging PET plastic bottle
- Food and beverage packaging

Housing Material
- PBT (polybutylene terephthalate)

Environment Protection
- IP67, IP69

Response Time
- Shorter than 2.5ms

Popular Part Number
- E3Z-B86 • E3Z-B66 • E3Z-B67 • E3Z-B87

Accessories
- Mounting Bracket, Adjustable Arm, Cable Connector

E3Z-LASER Laser Sensor
- Compact plastic housing fits in most applications
- Class 2 LASER (FDA)
- Visible LASER light for easy installation, accurate positioning, small object detection and long range precision
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Applications
- Jam prevention conveying at high speeds
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- Diffuse-Reflective Sensing Range NA
- Power Supply Voltage 12-24 VDC
- Light Source Red LED
- Class II

Environment Protection
- IP67

Response Time
- Operation or Reset 1ms max

Popular Part Number
- E3Z-LT66 • E3Z-LT86 • E3Z-LR66 • E3Z-LR86 • E3Z-LL66 • E3Z-LL86

Accessories
- Mounting Bracket, Adjustable Arm, Cable Connector

E3Z-G Fork Shaped Housing
- The forked shape through-beam sensors has a 25 mm sensing distance
- Slotted head eliminates the need for optical axis adjustment
- One or two axes models

Applications
- Slotted edge control
- Mark sensing
- Ideal for slowdown, then stop applications like garment hangers

Housing Material
- PBT (polybutylene terephthalate)

Environment Protection
- IP67

Response Time
- Operation or Reset 1ms max

Popular Part Number
- E3Z-G61 • E3Z-G81 • E3Z-G61M3J • E3Z-G81M3J

Accessories
- Mounting Brackets

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- Power Supply Voltage 12-24 VDC
- Light Source Red LED
- Class II

Environment Protection
- IP67

Response Time
- Operation or Reset 1ms max

Popular Part Number
- E3Z-LT66 • E3Z-LT86 • E3Z-LR66 • E3Z-LR86 • E3Z-LL66 • E3Z-LL86

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Popular Part Number
- E3Z-G61 • E3Z-G81 • E3Z-G61M3J • E3Z-G81M3J

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- Mounting Brackets

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