

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 adjuster 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

Through-Beam Sensing Range 20 m	Retro-Reflective Sensing Range 4 m
Diffuse-Reflective Sensing Range 1 m	Power Supply Voltage 10-30 VDC
Light Source Red LED (624 nm)	Connection Method Red-Wired or M12 Connector

Environment Protection
IP67 and IP69K

Response Time
Operation or Reset 0.5ms max

Popular Part Number

- E3FA-TP21 • E3FA-RP21 • E3FA-DP22
- E3FA-LP21 • E3FB-TP21 • E3FB-DP22

Accessories

Mounting brackets, Mounting Nuts, Cable Connector, Reflectors



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 circuit with inverters and other inductive loads
- Advanced high power LED allows use in brightly lit manufacturing applications

Applications

- General purpose sensing: including long detection distance, 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)

Through-Beam Sensing Range 10 m, 15 m, 30 m	Retro-Reflective Sensing Range 5 m
Diffuse-Reflective Sensing Range 1 m	Power Supply Voltage 12-24 VDC
Light Source Infrared LED, RED LED	Connection Method Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12

Environment Protection
IP67

Response Time
Operation or Reset 1ms max

Popular Part Number

- E3Z-T66 • E3Z-T86 • E3Z-R65
- E3Z-R86 • E3Z-D62-M5J • 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)

Through-Beam Sensing Range 15 m	Retro-Reflective Sensing Range 4 m
Diffuse-Reflective Sensing Range 1 m	Power Supply Voltage 12-24 VDC
Light Source Infrared LED, RED LED	Connection Method Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12

Environment Protection
IP69

Response Time
Operation or Reset 1ms max

Popular Part Number

- E3ZM-T66 • E3ZM-T86 • E3ZM-R66
- E3ZM-R86 • E3ZM-D67 • E3ZM-D87

Accessories

Mounting Bracket, 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)

Through-Beam Sensing Range 15 m, 20 m	Retro-Reflective Sensing Range 4 m
Diffuse-Reflective Sensing Range 1 m	Power Supply Voltage 12-24 VDC
Light Source Infrared, Orange LED, Red LED	Connection Method Pre-Wired, Cable Connector style M8 4-pin, M12

Environment Protection
IP67 and IP69

Response Time
Operation or Reset 2ms max

Popular Part Number

- E3ZM-CT66 • E3ZM-CT86 • E3ZM-CR66
- 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

SUS316L (Stainless Steel 316)

Through-Beam Sensing Range NA	Retro-Reflective Sensing Range 500 mm
Diffuse-Reflective Sensing Range NA	Power Supply Voltage 12-24 VDC
Light Source Red LED	Connection Method Pre-Wired, Connector Cord set style M8 4-pin

Environment Protection
IP69

Response Time
Operation or Reset 1ms max

Popular Part Number

- E3ZM-B66-C • E3ZM-B86-C

Accessories

Mounting Bracket, Adjustable Arm, Cable Connector

Photoelectric Sensors



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

Housing Material

PBT (polybutylene terephthalate)

Through-Beam Sensing Range	Retro-Reflective Sensing Range
NA	500 mm, 2 m

Diffuse-Reflective Sensing Range	Power Supply Voltage
NA	12-24 VDC

Light Source	Connection Method
Red LED	Pre-Wired, Cable Connector style M8 4-pin

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
- 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 worn equipment like drill bits or saw blades
- Textile mills and sheet good sensing (Start, end of roll and Mark detection along the way)

Housing Material

PBT (polybutylene terephthalate)

Through-Beam Sensing Range	Retro-Reflective Sensing Range
60 m	15 m

Diffuse-Reflective Sensing Range	Power Supply Voltage
NA	12-24 VDC

Light Source	Connection Method
Red LED FDA Class II	Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12

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



E3T Miniature Sensor

- Small size with precision 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

Applications

- Sorting machines
- Applications where machine size is an issue
- Sensing through small slits or holes
- Electronic component sensing

Housing Material

PBT (polybutylene terephthalate)
E3T-C: Stainless Steel 303

Through-Beam Sensing Range	Retro-Reflective Sensing Range
1 m	200 mm

Diffuse-Reflective Sensing Range	Power Supply Voltage
30 m	12-24 VDC

Light Source	Connection Method
Red LED	Pre-Wired

Environment Protection

IP67

Response Time

Operation or Reset 1ms max

Popular Part Number

- E3T-ST11 • E3T-ST12 • E3T-FT11
- E3T-FT13 • E3TSL11 • E3T-SL21
- E3T-SR21

Accessories

Mounting Brackets



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)

Through-Beam Sensing Range	Retro-Reflective Sensing Range
35 m	NA

Diffuse-Reflective Sensing Range	Power Supply Voltage
NA	12-24 VDC

Light Source	Connection Method
Infrared LED	Pre-Wired

Environment Protection

IP67

Response Time

Operation or Reset 1ms max

Popular Part Number

- E3Z-G61 • E3Z-G81
- E3Z-G61M3J • E3Z-G81M3J