



## Retroreflective Photoelectric Sensors



### Compact Photoelectric Sensors for Reliable PET Bottle Detection

- » Increase accuracy
  - » Minimize errors
    - » Reliable PET Bottle Detection
  - » Grow your bottom line

# Compact Photoelectric Sensors for Reliable PET Bottle Detection

Overcome the unique challenges associated with PET Bottle Detection with Omron's E3Z-B and E3ZM-B retroreflective sensors. Known for superior quality and unmatched reliability, Omron's compact E3Z-B and E3ZM-B sensors deliver precision to your production line.

## How can Omron's E3Z-B and E3ZM-B photoelectric sensors impact your production environment?

- Increase accuracy – detects complex PET bottle shape, position, transparency, and content.
- Minimize errors – reduces missed products, miscounts, jams, and mislabeling.
- Grow your bottom line – eliminates wasted products and inconsistent packaging.

## Ideal for PET bottle detection in low contamination environments

### E3Z-B Key Advantages:

- Uses Inner View, Omron's unique optical system to detect various shapes of PET bottles and transparent objects.
- Detects a wide range of bottles: from 500-ml to 2-liter size; detects single bottles or stacked bottles.
- Provides a high degree of protection (IP67).
- Mutual interference protection.
- CE approved.
- High degree of noise immunity.
- Light-On/Dark-On switch-selectable.



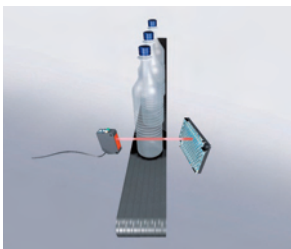
## Enhanced features for PET bottle detection in harsh environments

### E3ZM-B Key Advantages:

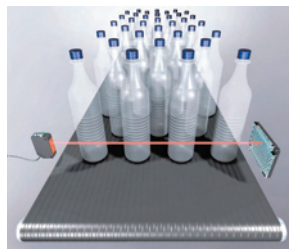
- New detection method completely independent of bottle shape, position, transparency, and contents.
- Automatic compensation for the effects of contamination and temperature.
- Teaching with no workpiece required for quick and easy setting.
- IP69K degree of protection from SUS316L housing.
- Wide ambient temperature range of -40 to 60 C.



## Applications



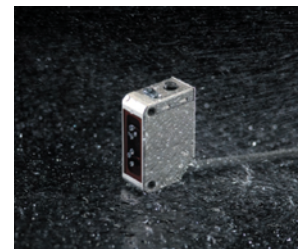
Short range model for detecting single bottles.



Long range model for detecting multiple "stacked" bottles or across accumulators.



Highly resistant to the effects of detergent and disinfectants.



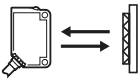


E3ZM-B withstands washing with high-temperature, high-pressure water.

E3Z-B Specifications	
Voltage Range	12-24 VDC
Light Source (wave Length)	Red LED (680 nm)
Current consumption	30 mA max.
Response time	1 ms max.
Circuit protection	Power source reverse polarity; Output reverse polarity; Short-circuit; Mutual interference.
Operating ambient	-25°C to 55°C, 35% to 85% RH
Operation	Light-ON or Dark-ON selectable
Sensitivity adjustment	One-turn adjuster
Enclosure rating	IP67
Connection	4-pin M8 connector or 2 m cable models
Dimensions	33.1 H x 10.8 W x 20 D mm

E3ZM-B Specifications	
Voltage Range	12-30 VDC
Light Source (wave Length)	Red LED (650 nm)
Current consumption	450 mA max. (current consumption for a 30-V power supply: 15 mA max.)
Response time	1 ms max.
Circuit protection	Power source reverse polarity; Output reverse polarity; Short-circuit; Mutual interference.
Operating ambient	-25°C to 60°C, 35% to 85% RH
Operation	Light-ON or Dark-ON cable switch selectable
Sensitivity adjustment	Button teaching method
Enclosure rating	IP69K
Connection	4-pin M8 connector or 2 m cable models
Dimensions	32.2 H x 10.8 W x 21 D mm

## Ordering Information E3Z-B

### Standard Models

Sensing method	Appearance (See Note 1.)	Connection method	Sensing distance (See Note 2.)	Part number	
				NPN output	PNP output
Retroreflective (without MSR function) (See Note 1.)		Pre-wired (See Note 3.)	 500 mm (80 mm)	E3Z-B61	E3Z-B81
		M8 Connector		E3Z-B66	E3Z-B86
		Pre-wired (See Note 3.)	 2 m (100 mm)	E3Z-B62	E3Z-B82
		M8 Connector		E3Z-B67	E3Z-B87

Note: 1. The Reflector is sold separately.

2. The specified sensing distance is possible when the E39-R1S or E39-R1K reflector is used. Figures in parentheses indicate the minimum distance between the Sensor and the Reflector. This also applies to the table on Reflectors (in Accessories, below).

3. Pre-wired models with either a 0.5-m or 5-m cable are available. When ordering, specify the cable length by adding the code "0.5m" or "5m" to the part number (e.g., E3Z-B61 0.5m).

### Accessories (Order Separately)

**Reflectors** (Reflectors are not provided with the E3Z Sensor. Order separately.)

Type	Sensing distance (typical) rated value						Part number
	E3Z-B□1/-B□6			E3Z-B□2/-B□7			
Standard reflector							E39-R1S
Reflector with fog-prevention coating	■	500 mm (80 mm)		■	2 m (100 mm)		E39-R1K

### Brackets

To order brackets, you'll find the complete list of appropriate brackets for the E3Z-B when you refer to the basic E3Z Photoelectric Sensor data sheet on Omron's website @www.omron247.com, or refer to the Sensing Products Catalog.

### M8 Connectors

To order M8 Connectors, simply refer to the basic E3Z data sheet in the Sensing Products Catalog or on Omron's website @www.omron247.com for a quick, accurate and complete list of connectors available for the E3Z-B Photoelectric Sensor.

Note: All brackets and connectors are common for all E3Z Models.



## Sensors

Red light


Sensing method	Appearance	Connection method	Sensing distance	Model		
				Special reflector	NPN output	PNP output
Retroreflective with MSR function		Pre-wired (2 m) *2		Purchased separately	E3ZM-B61	E3ZM-B81
		Connector (M8, 4 pins)			E3ZM-B66	E3ZM-B86
		Pre-wired (2 m) *2		Included	E3ZM-B61-C	E3ZM-B81-C
		Connector (M8, 4 pins)			E3ZM-B66-C	E3ZM-B86-C

\*1. Values in parentheses indicate the minimum required distance between the Sensor and Reflector.

\*2. Models with a 5-m pre-wired cable are also available. When ordering, add the cable length to the end of the model number (e.g., E3ZM-B61 5M).

## Accessories

### Special Retroreflective Reflector

Name	Model	Sensing distance (rated)		Quantity	Remarks
		E3ZM-B□1/-B□6			
Special Polarizing Reflector	E39-RP1		500 mm [100 mm]*	1	A Reflector is provided with the E3ZM-B□□-C. A Reflector is not provided with the E3ZM-B□□. The MSR function is enabled.

Note: Conventional OMRON Retroreflective Reflectors (E39-R1/-R1S/-R2/-R3/-R9/-R10/-R1K/-RS1/-RS2/-RS3, etc.) cannot be used with the E3ZM-B.

\* Values in parentheses indicate the minimum required distance between the Sensor and Reflector.

## Mounting Brackets

Appearance	Model (Material)	Quantity	Remarks
	E39-L153 (SUS304)	1	Mounting Brackets
	E39-L104 (SUS304)	1	
	E39-L44 (SUS304)	1	Rear Mounting Bracket

\* Cannot be used for Standard Connector models.

Automation...simple...powerful.

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