Compact Photoelectric Sensor with Built-in Amplifier

E3Z

CSM_E3Z_DS_E_18_5

The Standard for Photoelectric Sensors with a Secure Track Record of One Million Sold Yearly.

- Long sensing distance of 30 m for Through-beam Models, 4 m for Retro-reflective Models, and 1 m for Diffuse-reflective Models.
- Mechanical axis and optical axis offset of less than ±2.5° simplifies optical axis adjustment.
- High stability with unique algorithm that prevents interference of external light.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

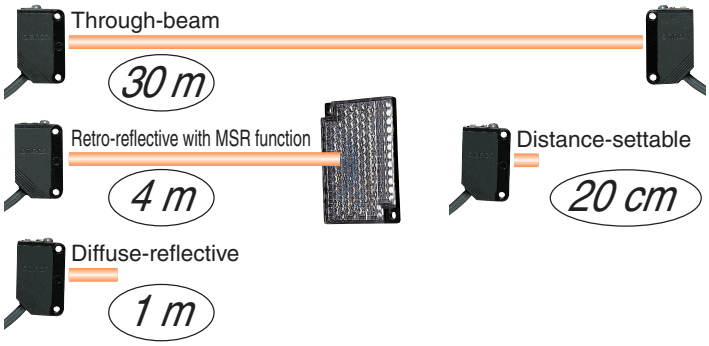
Be sure to read *Safety Precautions* on page 13.

Features

Industry's Top-level Sensing Distance with Built-in Amplifier

A separately sold filter is available to prevent mutual interference for Through-beam Models with red lights sources and a sensing distance of 10 m. Reflective Models include functionality to prevent mutual interference (up to 2 sensors).

Long-distance, Through-beam Sensors with a detection distance of 30 m (response time: 2 ms) are also available.

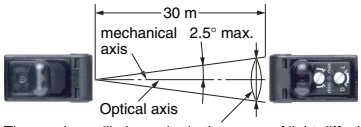


Low-temperature Operation for Applications in Cold-storage Warehouses

A wider ambient operating range from –40 to 55°C (main models with connectors). We also provide Sensor I/O Connectors with PUR Cables for high resistance to cold environments.

Improved Matching of Optical Axis and Mechanical Axis for Through-beam Models and Retro-reflective Models

The offset between the optical axis and the mechanical axis is kept within ±2.5°, so the optical axis can be accurately set simply by mounting the Sensor according to the mechanical axis.

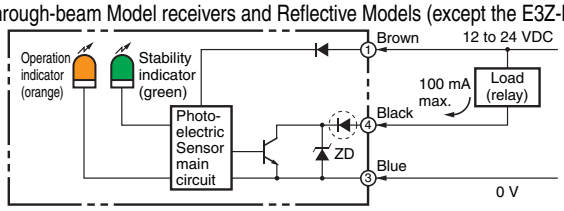


The receiver will always be in the range of light diffusion.

Sensor Protection against Incorrect Wiring

The Sensor includes output reverse polarity protection.
(A diode to protect against reverse polarity is added to the output line.)

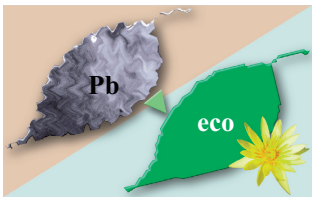
Through-beam Model receivers and Reflective Models (except the E3Z-LS)



Protection for NPN output models

Complete Compliance with the EU's RoHS Directive

Lead, mercury, cadmium hexachrome, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE) have all been eliminated. Also, burnable polyethylene packaging has been used.



Ordering Information

Sensors [Refer to *Dimensions on page* 14.]

Red light Infrared light

Sensing method	Appearance	Connection method	Sensing distance	Model: NPN output	Model: PNP output
Through-beam (Emitter + Receiver) *3		Pre-wired (2 m)	15 m	**E3Z-T61 2M** *4 *5 Emitter E3Z-T61-L 2M Receiver E3Z-T61-D 2M	**E3Z-T81 2M** *4 *5 Emitter E3Z-T81-L 2M Receiver E3Z-T81-D 2M
		Standard M8 connector		**E3Z-T66** Emitter E3Z-T66-L Receiver E3Z-T66-D	**E3Z-T86** Emitter E3Z-T86-L Receiver E3Z-T86-D
		Pre-wired (2 m)	10 m	**E3Z-T61A 2M** *4 Emitter E3Z-T61-A-L 2M Receiver E3Z-T61-A-D 2M	**E3Z-T81A 2M** *4 Emitter E3Z-T81-A-L 2M Receiver E3Z-T81-A-D 2M
		Standard M8 connector		**E3Z-T66A** Emitter E3Z-T66-A-L Receiver E3Z-T66-A-D	**E3Z-T86A** Emitter E3Z-T86-A-L Receiver E3Z-T86-A-D
		Pre-wired (2 m)	30m	**E3Z-T62 2M** *4 Emitter E3Z-T62-L 2M Receiver E3Z-T62-D 2M	**E3Z-T82 2M** Emitter E3Z-T82-L 2M Receiver E3Z-T82-D 2M
		Standard M8 connector		**E3Z-T67** Emitter E3Z-T67-L Receiver E3Z-T67-D	**E3Z-T87** Emitter E3Z-T87-L Receiver E3Z-T87-D
Retro-reflective with MSR function	*1	Pre-wired (2 m)	4 m *2 (100 mm)	**E3Z-R61 2M** *4 *5	**E3Z-R81 2M** *4 *5
		Standard M8 connector		**E3Z-R66**	**E3Z-R86**
Diffuse-reflective		Pre-wired (2 m)	5 to 100 mm (wide view)	**E3Z-D61 2M** *4	**E3Z-D81 2M** *4 *5
		Standard M8 connector		**E3Z-D66**	**E3Z-D86**
		Pre-wired (2 m)	1 m	**E3Z-D62 2M** *4 *5	**E3Z-D82 2M** *4 *5
		Standard M8 connector		**E3Z-D67**	**E3Z-D87**
		Pre-wired (2 m)	90±30 mm (narrow beam)	**E3Z-L61 2M** *4 *5	**E3Z-L81 2M** *4 *5
		Standard M8 connector		**E3Z-L66**	**E3Z-L86**
Distance-settable Refer to **E3Z-LS**.		Pre-wired (2 m)	20 to 40 mm (BGS min setting) 20 to 200 mm (BGS max setting)	**E3Z-LS61 2M** *4	**E3Z-LS81 2M** *4
		Standard M8 Connector	40 min. Incident threshold (FGS min setting) 200 min. Incident threshold (FGS max setting)	**E3Z-LS66**	**E3Z-LS86**
		Pre-wired (2 m)	2 to 20 mm (BGS min setting)	**E3Z-LS63 2M**	**E3Z-LS83 2M** *5
		Standard M8 connector	2 to 80 mm (BGS max setting)	**E3Z-LS68**	**E3Z-LS88**
Slit-type Through-beam Refer to **E3Z-G**.	1 axis	Pre-wired (2 m)	25 mm	**E3Z-G61 2M** *4 *5	**E3Z-G81 2M** *4 *5
	2 axes			**E3Z-G62 2M** *4	**E3Z-G82 2M** *4
	1 axis	Pre-wired M8 connector		**E3Z-G61-M3J**	**E3Z-G81-M3J**
	2 axes			**E3Z-G62-M3J**	**E3Z-G82-M3J**
Limited-reflective for transparent glasses		Pre-wired (2 m)	30±20 mm	**E3Z-L63 2M**	**E3Z-L83 2M**
		Standard M8 connector		**E3Z-L68**	**E3Z-J88**
Retro-reflective without MSR function for clear, plastic bottles	*1	Pre-wired (2 m)	*2 500 mm (80 mm)	**E3Z-B61 2M**	**E3Z-B81 2M** *4
		Standard M8 connector		**E3Z-B66**	**E3Z-B86**
		Pre-wired (2 m)	*2 2 m (500 mm)	**E3Z-B62 2M** *4	**E3Z-B82 2M** *4
		Standard M8 connector		**E3Z-B67**	**E3Z-B87**

*1. The Reflector is sold separately. Select the Reflector model most suited to the application.
*2. The sensing distance specified is possible when the E39-R1S is used. Values in parentheses indicate the minimum required distance between the Sensor and Reflector.
*3. Through-beam Sensors are normally sold in sets that include both the Emitter and Receiver.
*4. M12 Standard Pre-wired Connector Models are also availavble.
When ordering, add "-M1J 0.3M" to the end of the model number (e.g., E3Z-T61-M1J 0.3M).
The cable is 0.3 m long. The applicable Sensor I/O Connector is the XS2 Series. For details, refer to the *XS2* information available on the OMRON website.
*5. M12 Pre-wired Smartclick Connector Models are also availavble.
When ordering, add "-M1TJ 0.3M" to the end of the model number (e.g., E3Z-T61-M1TJ 0.3M).
The cable is 0.3 m long. The applicable Sensor I/O Connector is the XS5 Series. For details, refer to the *XS5* information available on the OMRON website.