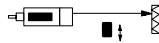




Sensing	Supply Voltage	Output
 30 cm, 1 m	12 to 24 VDC	 80 mA, 24 VDC with 1.5 to 4 mA constant current source; 100 mA, 24 VDC

Transparent Object Detection Sensor

E3S-R

Transparent Object Sensor with Built-in DC Amplifier

- Detects clear glass or plastic bottles, and transparent films with simple setup
- Fast, 1 ms maximum response time
- Choose PNP or NPN output models
- Light-on/dark-on operation, wire selectable
- Vertical and horizontal mounting styles
- Ready-to-use: prewired with 2 m (6.56 ft) cable, includes mounting bracket



Ordering Information

■ PLASTIC-HOUSING COMPACT MODELS

Connection	Appearance	Sensing method	Sensing distance	Light source color	Operating modes	Part Number		Recommended application (see note 1)	
						NPN	PNP	Flat object	Cylindrical object
Pre-wired	Horizontal 	Retro-reflective	10 to 30 cm	Infrared	Light-ON Dark-ON (selectable)	E3S-R12	E3S-R32	Ideal	Ideal
			0.1 to 1 m	Red		E3S-R11	E3S-R31	Ideal	---
	Vertical 		10 to 30 cm	Infrared		E3S-R62	E3S-R82	Ideal	Ideal
			0.1 to 1 m	Red		E3S-R61	E3S-R81	Ideal	---
Plug-in connector (see note 2)	Horizontal 	Retro-reflective	10 to 30 cm	Infrared	Light-ON Dark-ON (selectable)	E3S-R17	E3S-R37	Ideal	Ideal
			0.1 to 1 m	Red		E3S-R16	E3S-R36	Ideal	---
	Vertical 		10 to 30 cm	Infrared		E3S-R67	E3S-R87	Ideal	Ideal
			0.1 to 1 m	Red		E3S-R66	E3S-R86	Ideal	---

- Note:
1. The E3S-R may not easily sense some glass wafers (due to their materials) or plastic bottles (due to their shapes). Before using the E3S-R for the sensing of glass wafers or plastic bottles, be sure to use test examples of the glass wafers or plastic bottles to check if the E3S-R senses the examples easily.
 2. Refer to connector information provided later in this data sheet.
 3. Consult your OMRON representative before using the product under conditions not described in the manual or applying the product to nuclear control systems, and other systems, machines, and equipment that may have a serious influence on lives and property. Make sure that the ratings and performance characteristics of the product are correct for the systems, machines, and equipment and provide double safety mechanisms.

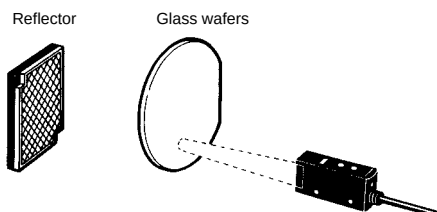
■ METAL-HOUSING MODELS

Method of detection		Retroreflective			
Sensing distance		30 cm (11.81 in)		1 m (3.28 ft)	
Mounting style		Horizontal 	Vertical 	Horizontal 	Vertical 
Part Number	NPN Output	E3S-RS30E4-30	E3S-RS30E42-30	E3S-R1E4	E3S-R1E42
	PNP Output	E3S-RS30B4-30	E3S-RS30B42-30	E3S-R1B4	E3S-R1B42

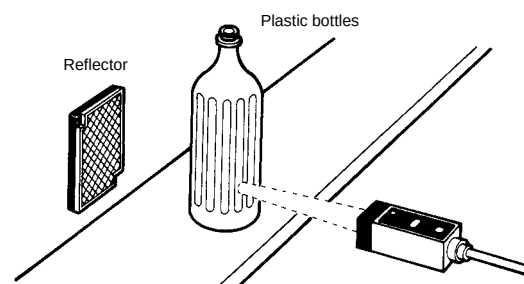
Application Examples

■ TYPICAL APPLICATIONS

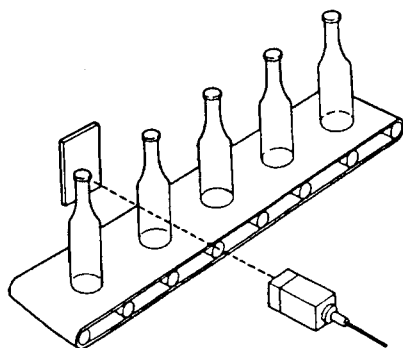
Sensing of Glass Wafers and LCD Glass Circuit Bottles



Sensing of Plastic Bottles and Other Transparent Bottles



Detecting Clear Glass Bottles on a Conveyor



Detecting Clear Plastic Film

