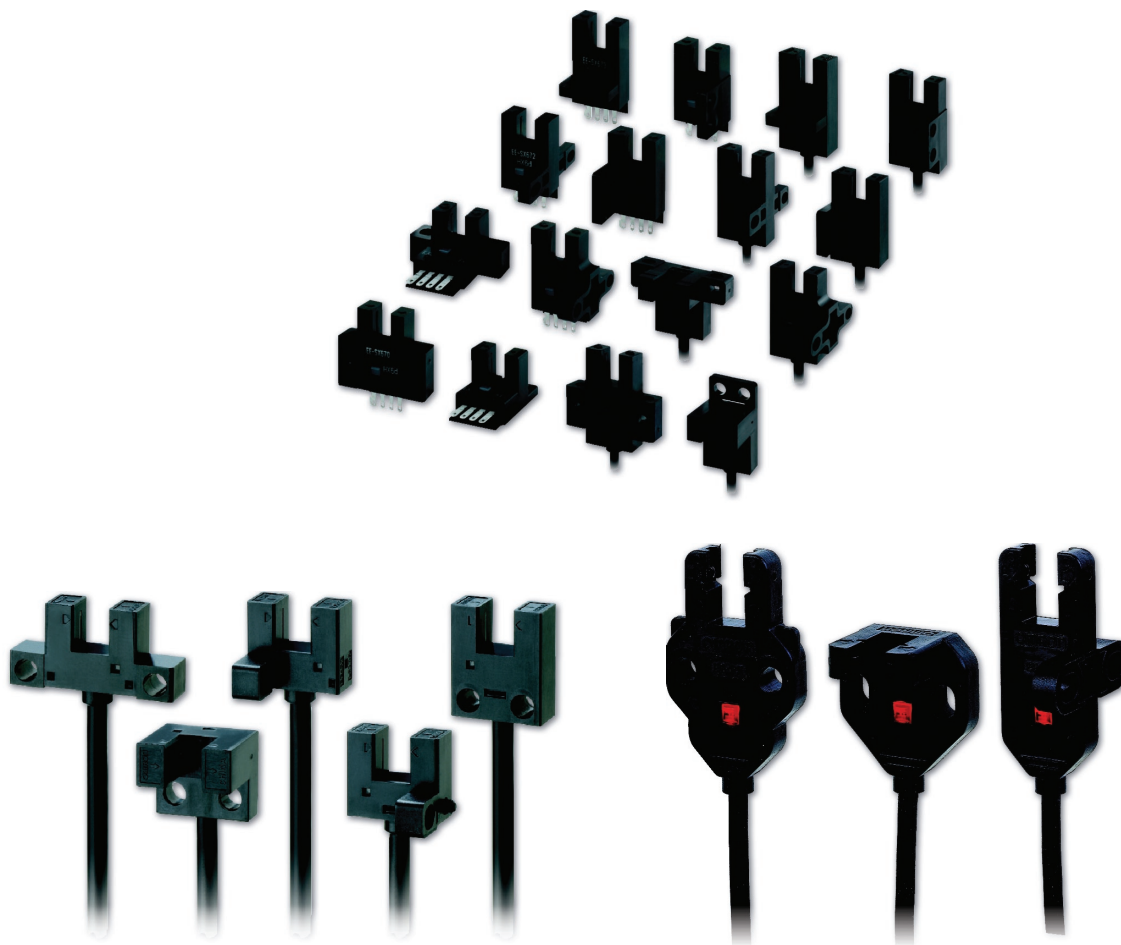# OMRON

Space-Saving Micro Photoelectric Sensors
with U-Shaped, Through-Beam Detection

Omron's EE-SX family offers the industry's most complete selection of micro sensors

»Easy to install

»Non-contact presence/absence/position detection

»Fast response

»Reliable switching with no contact bounce

»Highly visible indicators for monitoring

Automation...simple...powerful.

Easy to Install Low-Cost Solution for Presence/Absence/Position Detection

Omron's EE-SX Series photomicrosensors offer a low-cost, non-contact and high-speed solution for Presence/Absence/Position Detection. They eliminate contact bounce and wear typical of snap action switches used for these applications. Choose from 3 Types–Standard EE-SX47/67 Series; Thin EE-SX77/87 Series; Compact EE-SX91 Series.

Key Features

EE-SX47/67 – Conventional type offers versatility in multiple body types and connection options

- Small size enables space savings and fast installation
- 8 different body shapes match a wide range of applications
- Separate connector, pre-wired junction connector or pre-wired 1 m cable models available
- Flexible robot cable is standard for pre-wired models
- Easy operation monitoring with bright indicator light
- Models available with switching capability between Dark-ON or Light-ON operation
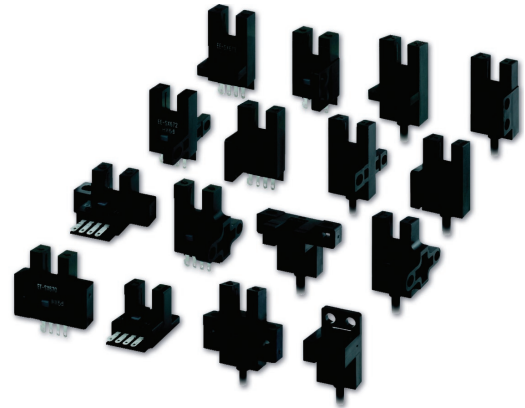
EE-SX77/87 – Thin profile offers solution for dense mounting conditions

- Ultra-thin body and sensing head is 2.4 mm more narrow than conventional types
- Standard, L-shaped and T-shaped models available to match a wide range of applications
- All models have a pre-wired 2 m flexible robot cable as a standard feature
- Easy operation monitoring with bright indicator light visible from both sides
- Notched optical axis indicator allows fine-tuning of sensing position setup
- Separate models for Dark-ON or Light-ON operation
- Fully resistant to dusty environment with IP60 enclosure rating
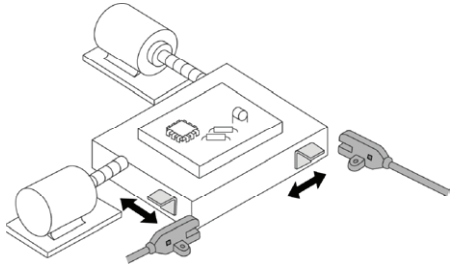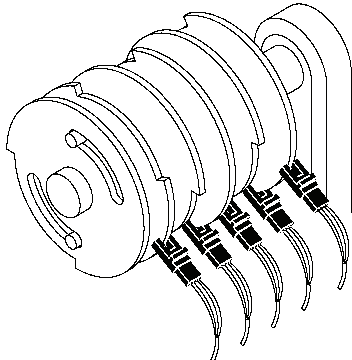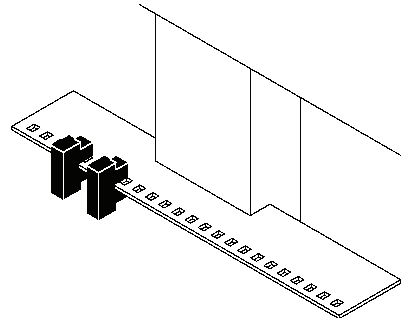
EE-SX91 – Ultra-small size offers solution for space constrained locations

- Ultra compact for maximum space savings
- 5 different body shapes to match a wide range of applications
- Indicator light can be viewed from 4 directions for easy of installation and operation
- Mountable with either M3 or M2 screws for ease of installation (competing products offer only M2 screw mounting)
- Separate pre-wired junction connector or pre-wired 2 m cable models available
- Flexible robot cable is standard for all models
- Each model has Dark-ON or Light-ON output capability

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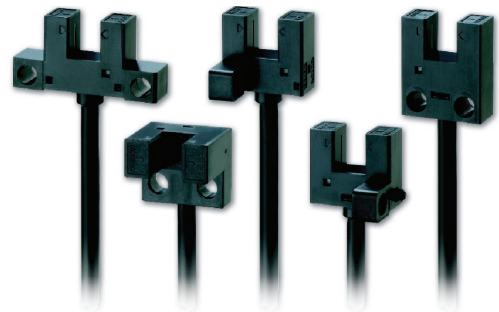
Typical Applications

X-Y table or robot positioning – home position and end-of-travel	Cam-timer switching—no contact bounce or wear	End/beginning of perforated or embossed tape or film
Use EE-SX770 or EE-SX870 pre-wired models for easy monitoring, indicator visible on two sides. Plug-in EE-SX670 and EE-SX470 allow servicing without rewiring.	Use EE-SX670 or EE-SX470. For single-side mounting, use EE-SX673 or EE-SX473. For narrow spaces, choose EE-SX914 U-shaped models.	Use two EE-SX670 or EE-SX470 to signal position and change of direction. For tight spaces, choose EE-SX910.

- **Pick and Place Machines**
- **Robotic Applications**
- **Pharmaceutical**
- **Semiconductor Back End**
- **Electronics Manufacturing/Packaging**
- **Clean Room Environment Applications**

Specifications

Type	EE-SX47/67	EE-SX77/87	EE-SX91
Sensing distance	5 mm (slot width)		
Sensing object	Opaque: 1.2 x 0.8 mm min.		
Differential distance	0.025 mm max.		
Light source	Infrared LED		
Supply voltage	5-24 VDC		
Current consumption	35 mA max. (NPN models), 30 mA max. (PNP models)		15 mA max.
Operating ambient	-25° to 55°C		
Enclosure rating	IP50	IP60	IP50
Housing material	Polybutylene terephthalate (PBT)		

Ordering Information

Photomicrosensors
EE-SX47/67

Type	Connection	Standard	L-shaped	T-shaped, slot center: 7 mm	T-shaped, slot center: 10 mm
NPN output	Connector	EE-SX670 EE-SX670A EE-SX470[1]	EE-SX671 EE-SX671A EE-SX471[1]	EE-SX672 EE-SX672A EE-SX472[1]	EE-SX675
	Pre-wired	EE-SX670-WR	EE-SX671-WR	EE-SX672-WR	EE-SX675-WR
	Junction connector	EE-SX670-C1J-R	EE-SX671-C1J-R	EE-SX672-C2J-R	EE-SX675-C3J-R
PNP output	Connector	EE-SX670P EE-SX670R EE-SX470P[1]	EE-SX671P EE-SX671R EE-SX471P[1]	EE-SX672P EE-SX672R EE-SX472P[1]	EE-SX475P
	Pre-wired	EE-SX670P-WR	EE-SX671P-WR	EE-SX672P-WR	EE-SX675P-WR
	Junction connector	EE-SX670P-C1J-R	EE-SX671P-C1J-R	EE-SX672P-C2J-R	EE-SX675P-C3J-R

[1]No incident light. Note: All models numbers followed with an A or R have Light-ON output configuration. All other models have Dark-ON or Light-ON selection capability.

Ordering Information

Photomicrosensors

EE-SX47/67 (continued)

Type	Connection	Close-mounting, straight terminal	Close-mounting, right-angle terminal	F-shaped	R-shaped
NPN output	Connector	EE-SX673 EE-SX673A EE-SX473[1]	EE-SX674 EE-SX674A EE-SX474[1]	EE-SX676	EE-SX676
	Pre-wired	EE-SX673-WR	EE-SX674-WR	EE-SX676-WR	EE-SX676-WR
	Junction connector	EE-SX673-C3J-R	EE-SX674-C3J-R	EE-SX676-C3J-R	EE-SX676-C3J-R
PNP output	Connector	EE-SX673P EE-SX673R EE-SX473P[1]	EE-SX674P EE-SX674R EE-SX474P[1]	EE-SX476P	EE-SX476P
	Pre-wired models	EE-SX673P-WR	EE-SX674P-WR	EE-SX676P-WR	EE-SX676P-WR
	Junction connector	EE-SX673P-C3J-R	EE-SX674P-C3J-R	EE-SX676P-C3J-R	EE-SX676P-C3J-R

[1]No incident light. Note: All models numbers followed with an A or R have Light-ON output configuration. All other models have Dark-ON or Light-ON selection capability.

EE-SX77/87

Output configuration	Indicator mode	Standard		L-shaped		T-shaped	
		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output
Dark-ON	Incident light	EE-SX770	EE-SX770P	EE-SX771	EE-SX771P	EE-SX772	EE-SX772P
	No incident light	EE-SX770A	EE-SX770R	EE-SX771A	EE-SX771R	EE-SX772A	EE-SX772R
Light-ON	Incident light	EE-SX870	EE-SX870P	EE-SX871	EE-SX871P	EE-SX872	EE-SX872P
	No incident light	EE-SX870A	EE-SX870R	EE-SX871A	EE-SX871R	EE-SX872A	EE-SX872R

EE-SX91

Type	Connection	Standard	L-shaped	F-shaped	R-shaped	U-shaped
NPN output	Pre-wired	EE-SX910-R	EE-SX911-R	EE-SX912-R	EE-SX913-R	EE-SX914-R
	Junction connector	EE-SX910-C1J-R	EE-SX911-C1J-R	EE-SX912-C1J-R	EE-SX913-C1J-R	EE-SX914-C1J-R
PNP output	Pre-wired	EE-SX910P-R	EE-SX911P-R	EE-SX912P-R	EE-SX913P-R	EE-SX914P-R
	Junction connector	EE-SX910P-C1J-R	EE-SX911P-C1J-R	EE-SX912P-C1J-R	EE-SX913P-C1J-R	EE-SX914P-C1J-R

Connectors and Cordsets

EE-SX47/67 Accessories for Models with Connectors (Order Separately)

Type	Cable length	Remarks	Model
Connector	–	–	EE-1001
		Includes built-in lock mechanism	EE-1009
Connector with cable	2 m	–	EE-1006
		Includes built-in lock mechanism	EE-1010
Connector with robot cable	2 m	Includes built-in lock mechanism	EE-1010-R
Connector hold-down clip	–	For EE-1006 only.	EE-1006A

Accessories for Models with Connectors (Order Separately)

Type	Cable length	Remarks	Model
Connector with lock	2 m	For EE-SX67☐-C1J-R, EE-SX91☐-C1J-R, 4-core robot cable	EE-1016-R-1

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