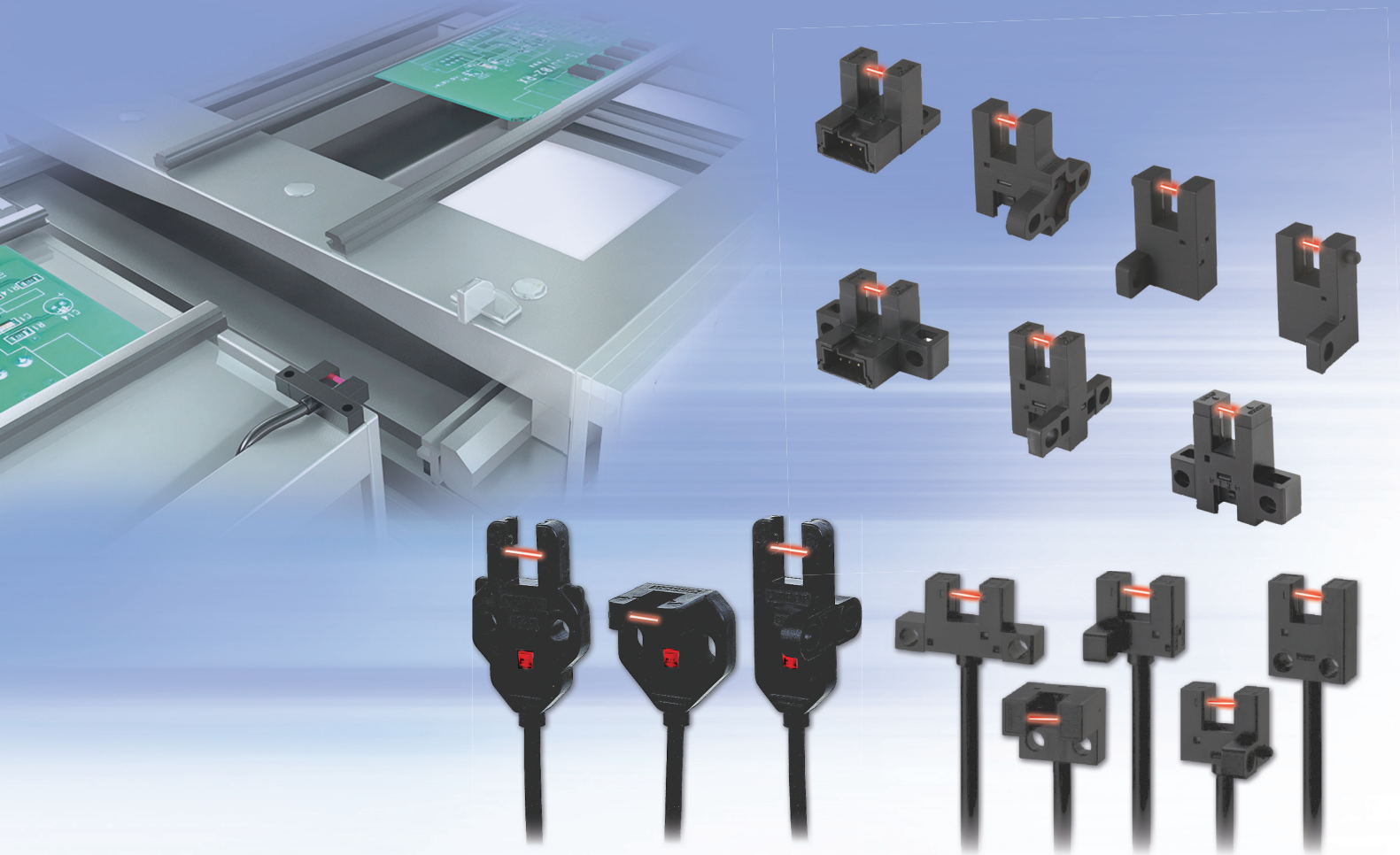# OMRON

AUTOMATION & SAFETY

EE-SX Photomicrosensors

Space-Saving with U-Shaped, Through-Beam Detection

» Reliable switching with no contact bounce

» Highly visible indicators for monitoring

» Non-contact presence/absence/position detection
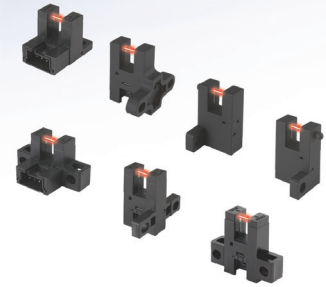
EE-SX Series Photomicrosensors...

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

Omron's EE-SX Photomicrosensor Series offers a low-cost, non-contact and high-speed solution for Presence/Absence and Position Detection. They eliminate contact bounce and wear typical of snap action switches used for these applications.

Key features

EE-SX97 – Smallest connector-type photomicrosensors
- Uses commercially available connector to keep costs down and minimize the footprint.
- 7 different body shapes match a wide range of applications.
- Two outputs: Light-ON and Dark-ON.
- Safer operation with built-in power supply reverse polarity protection.
- Easy operation monitoring with bright indicator light.

EE-SX77/87 – Pre-wired with visible indicators on both sides
- 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.
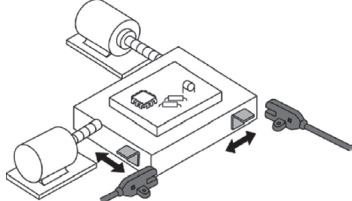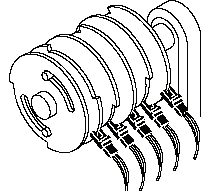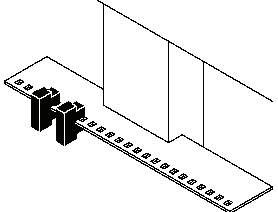- Fully resistant to dusty environment with IP60 enclosure rating.

EE-SX95 – Pre-wired with reduced dimensions
- 5 different body shapes to match a wide range of applications.
- All models available with either standard cable or flexible robot cable.
- Each model has Dark-ON or Light-ON output capability.
- Indicator light can be viewed from 4 directions for ease of installation and operation.
- Mountable with either M3 or M2 screws for flexibility of installation (competing products offer only M2 screw mounting).

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. The connector style EE-SX970 allows servicing without rewiring.	For narrow spaces, choose EE-SX954 U-shaped models.	Use two EE-SX970 to signal position and change of direction. For tight spaces, choose EE-SX950.

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

Specifications

Type	EE-SX97	EE-SX77/87	EE-SX95
Sensing distance	5 mm (slot width)		
Sensing object	Opaque: 2 x 0.8 mm min.	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	21 mA max.	35 mA max. (NPN models), 30 mA max. (PNP models)	15 mA max.
Ambient operating temperature	-25° to 55°C		
Enclosure rating	IP50	IP60	IP50
Housing material	Polybutylene terephthalate (PBT)		

Ordering Information

EE-SX97

Shape Type	Details	Model	
		NPN Output	PNP Output
Standard	**Connecting Method:** 4-pole connector cables sold separately (see chart below) **Operating Mode:** Dark-ON/ Light-ON (2 outputs) **Indicator Mode:** Incident light	EESX970-C1	EE-SX970P-C1
L-shape		EE-SX971-C1	EE-SX971P-C1
T-shaped, 7 mm screw hole width		EE-SX972-C1	EE-SX972P-C1
Close-mounting		EE-SX974-C1	EE-SX974P-C1
T-shaped, 10 mm screw hole width		EE-SX975-C1	EE-SX975P-C1
F-shaped		EE-SX976-C1	EE-SX976P-C1
R-shaped		EE-SX977-C1	EE-SX977P-C1

EE-SX97 Connector Cables (Order Separately)

Type	Cable length	Model
Connector with standard cable	1 m	EE-1017 1M
	3 m	EE-1017 3M
Connector with flexible robot cable	1 m	EE-1017-R 1M
	3 m	EE-1017-R 3M

Ordering Information

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-SX95

Type	Connection	Standard	L-shaped	F-shaped	R-shaped	U-shaped
NPN output	Standard Cable	EE-SX950-W 1M	EE-SX951-W 1M	EE-SX952-W 1M	EE-SX953-W 1M	EE-SX954-W 1M
	Robotic Cable	EE-SX950-R 1M	EE-SX951-R 1M	EE-SX952-R 1M	EE-SX953-R 1M	EE-SX954-R 1M
PNP output	Standard Cable	EE-SX950P-W 1M	EE-SX951P-W 1M	EE-SX952P-W 1M	EE-SX953P-W 1M	EE-SX954P-W 1M