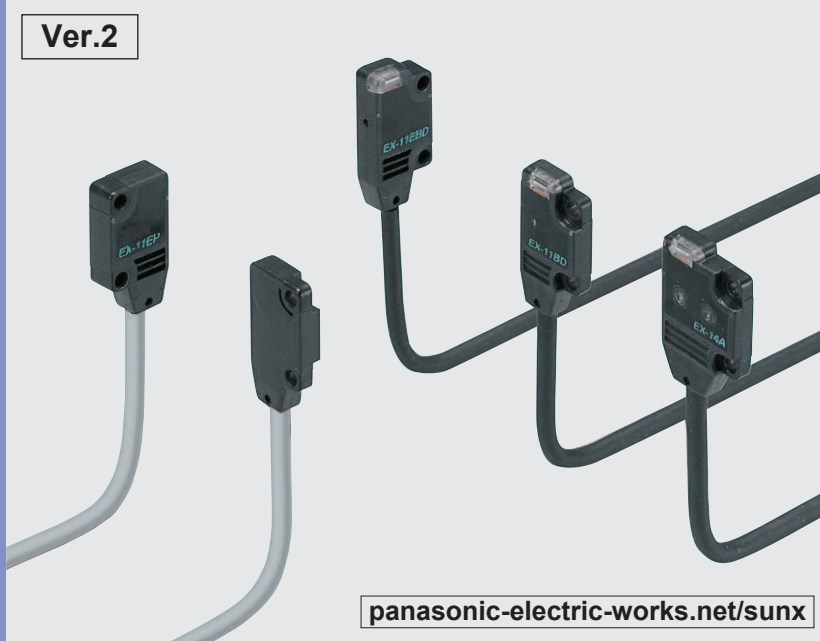


# EX-10 SERIES Ver.2

Related Information

- General terms and conditions..... F-17
- Sensor selection guide..... P.283~
- Glossary of terms / General precautions ..... P.1359~ / P.1405
- Korea's S-mark..... P.1410



PNP output type available

## Amplifier built-in extraordinarily small and slim size

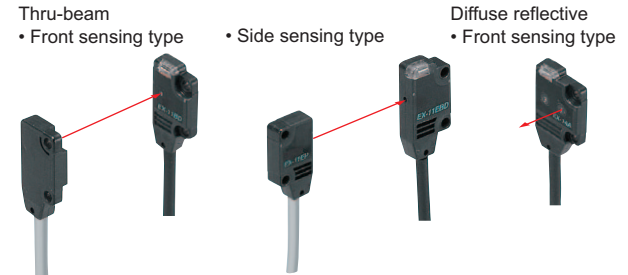
### Smallest body, just 3.5 mm 0.138 in thick

It can be mounted in a very small space as its size is just W10 × H14.5 × D3.5 mm  
 W0.394 × H0.571 × D0.138 in (thru-beam, front sensing type).



### Flexible mounting

The diffuse reflective type sensor is front sensing and is so thin that it gives an impression of being just pasted on the mounting base. The thru-beam type is available as front sensing type, as well as, side sensing type, allowing flexible mounting.

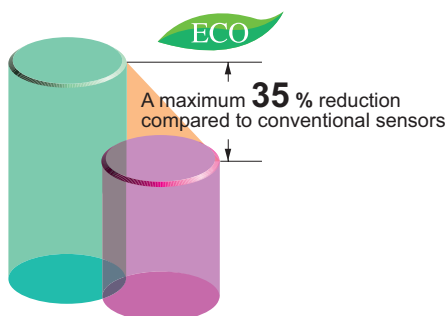


## BASIC PERFORMANCE

### Electric power saving \*

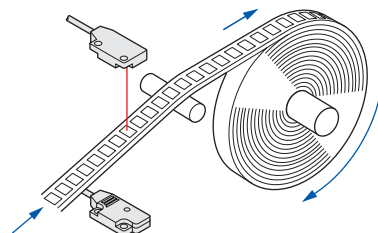
The EX-10 series achieves reductions in power consumption of up to 65%. These sensors contribute to environmental friendliness.

\* Effective from production in October 2010.



### High-speed response time: 0.5 ms

The sensor is suitable for detecting small and high-speed traveling objects.

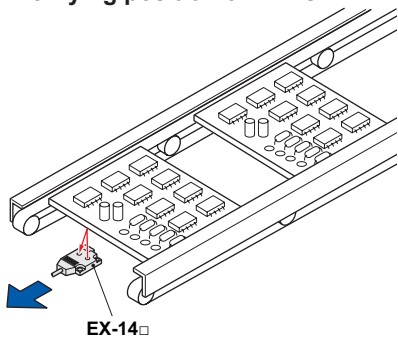


- Selection Guide
- Amplifier Built-in
- Power Supply Built-in
- Amplifier-separated

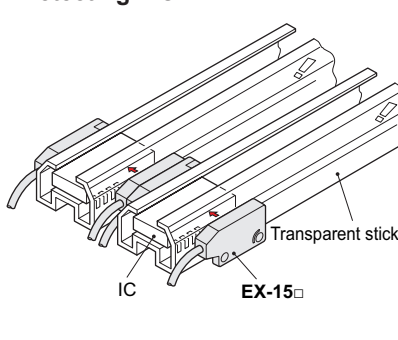
- CX-400
- EX-10
- EX-20
- EX-30
- EX-40
- CX-440
- EQ-30
- EQ-500
- MQ-W
- RX-LS200
- RX
- RT-610

**APPLICATIONS**

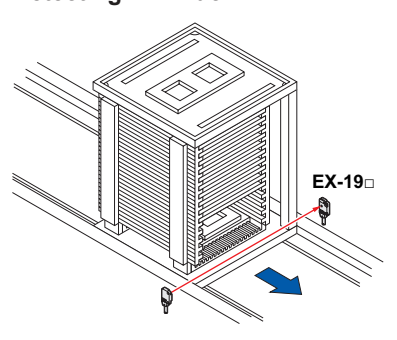
**Verifying position of PCBs**



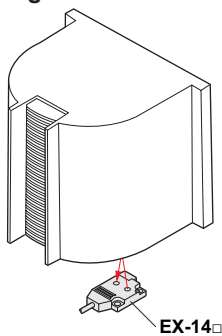
**Detecting ICs**



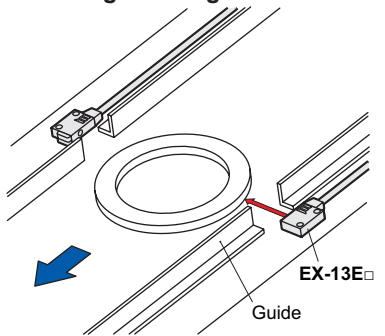
**Detecting PCB rack**



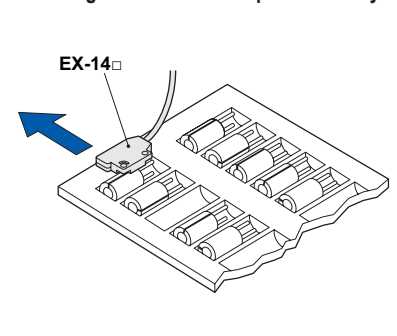
**Detecting wafer cassette**



**Detecting thin ring**



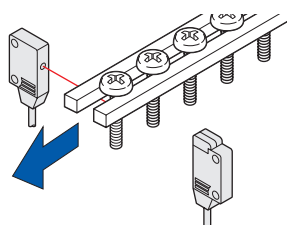
**Checking for absence of capacitor in tray**



**BASIC PERFORMANCE**

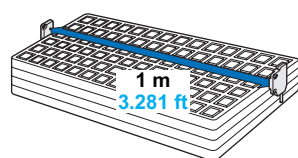
Minimum sensing object:  $\varnothing 1 \text{ mm } \varnothing 0.039 \text{ in}$  **EX-11(E), EX-15(E)**

**EX-11, EX-11E, EX-15** and **EX-15E** are incorporated with  $\varnothing 1 \text{ mm } \varnothing 0.039 \text{ in}$  slit masks so that  $\varnothing 1 \text{ mm } \varnothing 0.039 \text{ in}$ , or more, object can be detected. Hence, they are suitable for precise positioning or small parts detection.



Long sensing range: **1 m 3.281 ft** **EX-19**

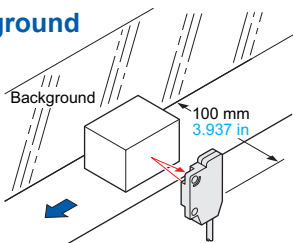
A sensing range of 1 m 3.281 ft has been realized with a slim size of just 3.5 mm 0.138 in. It can be used to detect even wide IC trays.



**Background suppression**

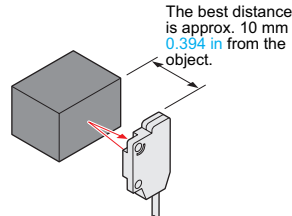
**Hardly affected by background**

Even a specular background separated by 100 mm 3.937 in, or more, is not detected. (However, the background should be directly opposite. A spherical or curved background may be detected.)



**Black object reliably detected**

It can reliably detect dark color objects since it is convergent reflective type.



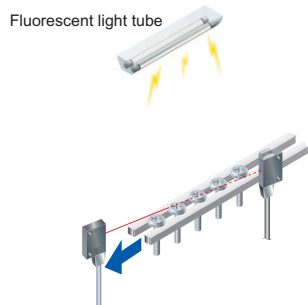
**EX-14**

**ENVIRONMENTAL RESISTANCE**

**Incorporated an inverter countermeasure circuit \***

The **EX-10** series become significantly stronger against inverter light and other extraneous light.

\* Effective from production in October 2010.



**Waterproof IP67**

The sensor can be hosed down because of its IP67 construction and the non-corrosive stainless steel mounting bracket.

Note: However, take care that if it is exposed to water splashes during operation, it may detect a water drop itself.

**Bending durability**

Flexible cable type **EX-□-R** is available. It is most suitable for moving parts, such as robot arm, etc.

**EX-□-R**

FIBER SENSORS

LASER SENSORS

PHOTOELECTRIC SENSORS

MICRO PHOTOELECTRIC SENSORS

AREA SENSORS

LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC CONTROL DEVICES

ENDOSCOPE

LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Selection Guide

Amplifier Built-in

Power Supply Built-in

Amplifier-separated

**CX-400**

**EX-10**

**EX-20**

**EX-30**

**EX-40**

**CX-440**

**EQ-30**

**EQ-500**

**MQ-W**

**RX-LS200**

**RX**

**RT-610**