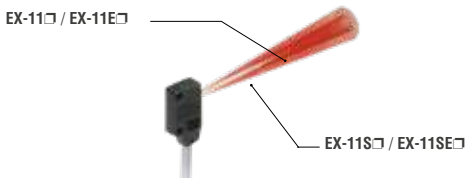
EX-10

The slimmest: 3.5mm thick

Features

Optimized precision optics

The enhanced EX-10 series offers a more precise light beam compared with the other standard models. Now you can realize an even more space saving installation, because no additional tools like slit masks are needed to prevent interferences. It is no problem to detect smallest objects with a diameter of 0.5mm.



Sensing range 1m: EX-19❑

High-speed response time: 0.5ms

The sensor **EX-10** with a response time of only 0.5ms is especially suitable for detecting small and high-speed traveling objects.

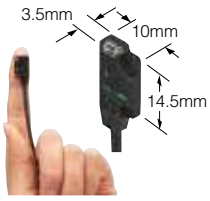
Flexible setup

The EX-10 sensor is available as front sensing or side sensing type, allowing for flexible mounting in the narrowest of spaces.

2-color indicator

A convenient bright, 2-color indicator has been incorporated in the miniature body. You can check the available power supply and current output operation at a glance.

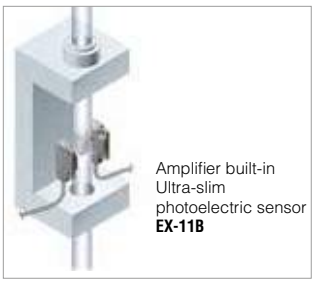
Freely mountable fingertip size



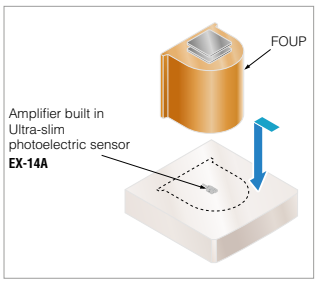
Freely mountable; dimensions 10x14.5x3.5mm (WxHxD) (Thru-beam type, front sensing). Moreover, easy alignment is possible with the visible red LED beam source.

Typical applications

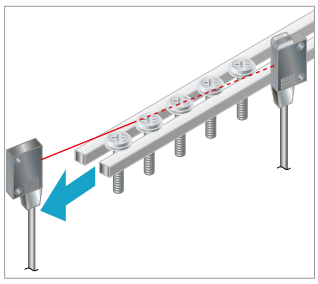
Detecting the float for a flow meter



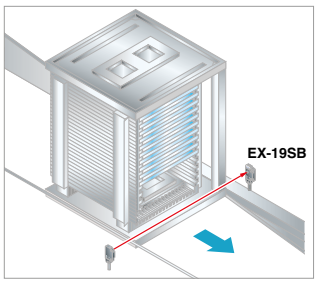
Seating confirmation fiber



Detecting small parts such as screws



Sensing PCB rack



Technical specifications

Type		Thru-beam						Convergent reflective	
Model no.	Front sensing	EX-11A(-PN) (note)	EX-11B(-PN)	EX-13A(-PN)	EX-13B(-PN)	EX-19A(-PN)	EX-19B(-PN)	EX-14A(-PN)	EX-14B(-PN)
	Side sensing	EX-11EA(-PN)	EX-11EB(-PN)	EX-13EA(-PN)	EX-13EB(-PN)	EX-19EA(-PN)	EX-19EB(-PN)	–	–
Sensing range		150mm		500mm		1m		2 to 25mm (conv. point: 10mm)	
Object to be sensed		Min. Ø 1mm (opaque)		Min. Ø 2mm (opaque)				Min. Ø 0.1mm copper wire (Setting distance: 10mm)	
Supply voltage		12 to 24V DC ±10 %							
Output		PNP/NPN open-collector transistor, max. 50mA							
Output operation		Light-ON	Dark-ON	Light-ON	Dark-ON	Light-ON	Dark-ON	Light-ON	Dark-ON
Response time		Max. 0.5ms							
Protection		IP67 (IEC)							
Ambient temperature		–25 to +55°C							
Connection method		2m cable							
Dimensions (HxWxD)		14.5x10x3.5mm						13x14.5x3.5mm	
Accessories		Mounting screws, 1 set							

Note:
Suffix -PN = PNP type
No suffix = NPN type

Narrow-view type

Type		Thru-beam				
		Front sensing	Side sensing	Front sensing	Side sensing	Front sensing
Model no.	Light-ON	EX-11SA(-PN) (note)	EX-11SEA(-PN)	EX-13SA(-PN)	EX-13SEA(-PN)	EX-19SA(-PN)
	Dark-ON	EX-11SB(-PN)	EX-11SEB(-PN)	EX-13SB(-PN)	EX-13SEB(-PN)	EX-19SB(-PN)
Sensing range		150mm		500mm		1m
Object to be sensed		Min. Ø 0.5mm (opaque)	Min. Ø 1.0mm (opaque)	Min. Ø 1.0mm (opaque)	Min. Ø 2.0mm (opaque)	Min. Ø 2.0mm (opaque)
Supply voltage		12 to 24V DC ±10%				
Output		PNP/NPN open-collector transistor, max. 50mA				
Response time		Max. 0.5ms				
Protection		IP67 (IEC)				
Ambient temperature		–25 to +55°C				
Connection method		2m cable				
Dimensions (HxWxD)		14.5x10x3.5mm				
Accessories		Mounting screws, 1 set				

Note:
Suffix -PN = PNP type
No suffix = NPN type